S. Hrg. 110–391

FROM WAREHOUSE TO WARFIGHTER: AN UPDATE ON SUPPLY CHAIN MANAGEMENT AT DOD

HEARING

BEFORE THE

OVERSIGHT OF GOVERNMENT MANAGEMENT,
THE FEDERAL WORKFORCE, AND THE
DISTRICT OF COLUMBIA SUBCOMMITTEE

OF THE

COMMITTEE ON
HOMELAND SECURITY AND
GOVERNMENTAL AFFAIRS
UNITED STATES SENATE

ONE HUNDRED TENTH CONGRESS

FIRST SESSION

JULY 10, 2007

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and Governmental Affairs

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CONTENTS

Opening statements: Page
- Senator Akaka 1
- Senator Voinovich 3

WITNESSES

TUESDAY, JULY 10, 2007

Hon. Jackson P. Bell, Deputy Under Secretary of Defense, Logistics and Material Readiness, U.S Department of Defense 5
General Norton A. Schwartz, Commander, U.S. Transportation Command 7
Lieutenant General Robert T. Dail, Director, Defense Logistics Agency 9
William M. Solis, Director, Defense Capabilities Management, U.S. Government Accountability Office 11

ALPHABETICAL LIST OF WITNESSES

Bell, Hon. Jackson P.:
- Testimony 5
- Joint prepared statement with Lieutenant General Dail and General Schwartz 27

Dail, Lieutenant General Robert T.:
- Testimony 9
- Joint prepared statement with Mr. Bell and General Schwartz 27

Schwartz, General Norton A:
- Testimony 7
- Joint prepared statement with Mr. Bell and Lieutenant General Dail 27

Solis, William M.:
- Testimony 11
- Prepared statement 49

APPENDIX

Background 77
GAO Report entitled “DOD’s High-Risk Areas, Progress Made Implementing Supply Chain Management Recommendations, but Full Extent of Improvement Unknown,” January 2007, GAO–07–234 83
GAO Report entitled “Defense Logistics, Efforts to Improve Distribution and Supply Support for Joint Military Operations Could Benefit from a Coordinated Management Aopproach,” June 2007, GAO–07–807 245
Copy of the “Business Case Analysis for Radio Department of Defense Passive Radio Frequency Identification,” submitted by General Schwartz 307

FROM WAREHOUSE TO WARFIGHTER: AN UPDATE ON SUPPLY CHAIN MANAGEMENT AT DOD

TUESDAY, JULY 10, 2007

U.S. SENATE,
SUBCOMMITTEE ON OVERSIGHT OF GOVERNMENT
MANAGEMENT, THE FEDERAL WORKFORCE,
AND THE DISTRICT OF COLUMBIA,
OF THE COMMITTEE ON HOMELAND SECURITY
AND GOVERNMENTAL AFFAIRS,
Washington, DC.

The Subcommittee met, pursuant to notice, at 2:36 p.m., in Room SD–342, Dirksen Senate Office Building, Hon. Daniel K. Akaka, Chairman of the Subcommittee, presiding.

Present: Senators Akaka and Voinovich.

OPENING STATEMENT OF SENATOR AKAKA

Senator AKAKA. Good to see all of you here. Good afternoon. This hearing of the Oversight of Government Management Subcommittee is called to order. I would like to welcome all of our witnesses. Today's hearing will look at progress made—and after reading some of the history, I must say that is true that progress has been made—in implementing the Department of Defense's 2005 plan for improving supply chain management. Supply chain management has been on the Government Accountability Office's High-Risk List since 1990, and that is far too long. My good friend Senator Voinovich and I are dedicated to seeing this issue removed from the list.

Since 2005, he and I have chaired several hearings on supply chain management.

After our last hearing in July 2006, Senator Voinovich and I asked GAO for an analysis of DOD's Joint Theater Logistics Initiative, which is one aspect of the plan for improvement. GAO has completed their analysis, and their report is being made public today at this hearing. Mr. Solis, I look forward to hearing more about your team's findings today.

Supply chain management is critical to our security. It affects the safety of men and women in uniform who are currently engaged in two simultaneous conflicts in Iraq and Afghanistan. Even after these conflicts end, effective supply chain management will remain vital. We need to look to the future when we must stock and store supplies for the next contingency, be it missions abroad or assisting others right here at home.

To begin, let me congratulate the Defense Department for what it has done well in supply chain management. I am very impressed by the progress made by the Defense Logistics Agency in implementing the Joint Regional Inventory Materiel Management initiative (JRIMM), which has now been operational in my home State of Hawaii on Oahu, and it has been operating since August of last year. I hope that we will continue to see the benefits of jointly managing supplies regionally as JRIMM is expanded in the Pacific Command and into other regions.

I also want to recognize the progress made by the Transportation Command in implementing several forward-looking initiatives as it grows into its role as the "distribution process owner."

However, having said all of this, there are several areas we are especially concerned about.

First, poor container management continues to be a serious problem. At this moment, DOD cannot account for more than 50,000 containers in the Central Command theater. They are lost. They have disappeared. Many of these containers do not even belong to the military. DOD also has thousands of containers that it has simply failed to return to their commercial owners who, in turn, charge the government late fees for not getting them back. This has forced the Defense Department to buy them out. It has spent $203 million to buy out over 25,000 containers. Now it has thousands of containers that are its responsibility—if it can ever find them. This is exactly the kind of waste that helped put this issue on the High-Risk List.

Asset visibility cannot be fully achieved without adequate technology applied to the supply chain. Radio Frequency Identification Initiative (RFID), in theory will track every pallet and every container from the warehouse to the warfighter. This capability has been in use in the private sector for years now and has greatly improved inventory levels and visibility. While implementation of RFID continues to move forward at DOD, there is still a long way to go.

We also need to work to ensure that information systems involved with logistics can communicate with each other. Personnel in the field are being forced to find tedious, manual work-arounds to exchange information between different computer systems. Computers working in joint operations cannot always automatically exchange needed data.

The Defense Department needs to formulate a unified, comprehensive strategy to address future logistics capabilities. It has been promised since we started these hearings that the Department was working toward that goal. I am particularly concerned that the "To Be" roadmap, which was supposed to provide this strategy, is still not complete, even though it was supposed to be released last February. Without a long-term strategy, all of the links in the supply chain—the Defense Logistics Agency, the Transportation Command, and the combatant commands—are likely to end up with their own approaches which may not be consistent.

As Chairman of the Armed Services Readiness Subcommittee, I know that the failure to modernize business processes contributes greatly to all of DOD's high-risk areas. These areas also have to be removed from GAO's High-Risk List. I look forward to continuing to work with Senator Voinovich, as well as the Office of Management and Budget and the Department of Defense, to work toward this goal.

With that, it is my pleasure to have several witnesses here today from DOD that can give us a broader look at the work being done to improve logistics at the Department. I want to commend you all for your commitment to creating not just a joint force but one that is integrated in its efforts as well.

I also want to welcome back Mr. Solis, who has come before this Subcommittee again to give us GAO's perspective on this important issue. And I look forward to hearing from each of you today.

I am so delighted to have Senator Voinovich here, and I ask him for his statement.

OPENING STATEMENT OF SENATOR VOINOVICH

Senator VOINOVICH. Thank you, Senator Akaka. Let me begin by thanking you for holding the Subcommittee's third hearing on the Department of Defense's supply chain management. This Subcommittee is very fortunate to have Senator Akaka's leadership. Not only with his experience on this full Committee but his experience on the Armed Services Committee, you are able to bring both perspectives to this issue.

Supply chain management, as many of you know, has been on the GAO high-risk list since 1990, 17 years is far too long. My continued interest in investigating and improving the Department's supply chain management is guided by two principles.

First, with a budget of well over $400 billion and resources in the supply chain amounting to more than $162 billion, the Department must be a good steward of taxpayer dollars. As I have noted in the past, former Secretary of Defense Don Rumsfeld once estimated that the Department wastes 5 percent of its budget—more than $20 billion a year at current budget levels—on redundant or outdated business practices. Based on my experience as a former mayor and governor, I believe it is more like 10 percent rather than 5 percent.

Second, and arguably more important given Operation Iraqi Freedom, inefficient, ineffective, and redundant steps within the supply chain can have a direct and negative impact on the warfighter. We must assure that the current supply chain system at the Department has the ability to deliver the right items, at the right time, to the right place to our soldiers in the battlefield.

Since our last hearing in July 2006, we have seen noticeable progress, as I said, in this high-risk area. I have been pleased with the Department's continued commitment to improving supply chain management.

At the Subcommittees's request, the GAO has released two reports critiquing the Department's supply chain management. The first report, released in January of this year, takes a hard look at the supply chain management improvement plan and overall logistics planning within the Department.[1] In this report, GAO found that the plan continues to lack outcome-focused performance metrics as well as overall cost metrics for each of the 10 initiatives in the plan.

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[1] The GAO Report entitled "DOD's High-Risk Areas, Progress Made Implementing Supply Chain Management Recommendations, but Full Extent of Improvement Unknown," January 2007, appears in the Appendix on page 83.

Since the Subcommittee began working on this issue over 2 years ago, we have continued to press upon the Department the need to develop long-term performance and cost metrics. I am disappointed that after several requests, including personally asking Deputy Secretary England, the Department has not put forth these important measures. These metrics are essential for this Subcommittee to provide effective oversight of this issue and will be vital in the next Administration. I think the Department has a very good plan underway. I am hoping that the next Administration will embrace it. But I want to know what metrics can the Subcommittee use to determine whether or not the Dpartment is indeed following the plan that was put in place.

Mr. Bell, I am interested in your opinion on the Department's ability to measure the success of the supply chain management plan absent these performance objectives.

The second GAO report,[1] which is being released in connection with today's hearing, focuses on Joint Theater Logistics, an initiative in the supply chain management improvement plan that centers on getting the right supplies into a combat theater in a timely manner. Mr. Solis, I look forward to your remarks on the findings within this report and, more importantly, from our DOD witnesses on how the Department intends to implement the recommendations.

Key support components of Joint Theater Logistics include the Defense Logistics Agency and U.S. Transportation Command. General Schwartz, my staff recently visited USTRANSCOM, and they were pleased with the information provided and the processes established under your leadership. It seems to me that successful implementation of the Joint Deployment Distribution Operations Centers and the current transformation of the information technology architecture to support supply chain management will go a long way toward improving supply chain management. Success will depend in part, however, upon the services' willingness to accept these initiatives.

General Schwartz, given your responsibility as the distribution process owner, with responsibility for overseeing Department-wide distribution of assets, I question whether or not you have the necessary authority to carry out the mission that has been given to you. I look forward to hearing from you and General Dail on how you will work together to ensure that assets are made available to our men and women in uniform without delay.

Given the complex nature of supply chain management and the need for business transformation within the Department, it is imperative that the Department, I believe, have a Chief Management Officer, and I have been batting that ball back and forth with Mr. England for a long time. I am pleased to see that language was included in the Fiscal Year 2008 Defense Authorization bill, which is currently being debated on the Senate floor. This language is a step in the right direction to ensure continuous top-level attention to management issues at the Department. And the reason why Senator Akaka and I are so strong on this is that from our experience—and I know, Senator Akaka, from my experience as mayor—transformation is not done in 2 or 3 years. In many instances, transformation may take 5 to 6 years if you are going to institutionalize it and put it in concrete. And I keep saying to the people, Ken Krieg and company that have worked on this so far, I would like to have some guarantee that all this work that I did is not going to go down the tubes when the next Administration comes into office. And it would be comforting to me to know there is somebody there that is smart, knows the system, and is going to stay on top of it to make sure that your hard work bears fruition for the Department of Defense.

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[1] The GAO report entitled "Defense Logistics, Efforts to Improve Distribution and Supply Support for Joint Military Operations Could Benefit from a Coordinated Management Approach," June 2007, appears in the Appendix on page 245.

I just want you to know that I am very grateful for your presence here today, and I am grateful for the conscientious effort that you have made to take this on, something that has been around too long. Thank you, Senator.

Senator AKAKA. Thank you, Senator Voinovich.

It is my pleasure now to welcome Jack Bell, Deputy Under Secretary for Logistics, Department of Defense; General Norton Schwartz, Commander, U.S. Transportation Command; Lieutenant General Robert Dail, Director, Defense Logistics Agency; and Bill Solis, Director, Defense Capabilities Management, Government Accountability Office.

It is the custom of this Subcommittee to swear in all witnesses, so will you please stand and raise your right hand? Do you solemnly swear that the testimony you are about to give to this Subcommittee is the truth, the whole truth, and nothing but the truth, so help you, God?

Mr. BELL. I do.

General SCHWARTZ. I do.

General DAIL. I do.

Mr. SOLIS. I do.

Senator AKAKA. Thank you. Let the record note that the witnesses responded in the affirmative.

Although statements are limited to 7 minutes, I want all of our witnesses to know that their entire statements will be included in the record. I understand that all witnesses from the Department of Defense will be submitting a joint statement for the record, but each would like to also make brief remarks.

So, Mr. Bell, will you please proceed with your statement?

STATEMENT OF HON. JACKSON P. BELL,[1] DEPUTY UNDER SECRETARY OF DEFENSE, LOGISTICS AND MATERIEL READINESS, U.S. DEPARTMENT OF DEFENSE

Mr. BELL. Thank you, Chairman Akaka and Senator Voinovich. Thank you for this opportunity to appear before you today. I am honored to have appearing with me General Norton Schwartz, as you have indicated, Commander of the U.S. Transportation Command and the Department's Distribution Process Owner; and Lieutenant General Bob Dail, the Director of the Defense Logistics Agency. I also welcome this opportunity to appear with Bill Solis of the Government Accountability Office.

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[1] The joint prepared statement of Mr. Bell, General Schwartz, and Lieutenant General Dail appears in the Appendix on page 27.

As in recent years, we come before you today to report to you the progress the Department of Defense is making to reduce risk and to institutionalize the improvements that we are making in our supply chain management processes. In the interest of time, I will summarize my written testimony and highlight our efforts to support our deployed warfighters and the progress that we have made since the last hearing in July 2006.

Before we address those areas, I want to compliment your staffs, the staffs of the Office of Management and Budget, and the staffs of the Government Accountability Office for their support of our efforts.

As we have indicated, DOD logistics is a very large and complex business involving over a million uniformed, civilian, and contract employees. This effort did account for $160 billion in spending in fiscal year 2006, shaped significantly by our Global War on Terror operations. Our military forces are deployed to some of the most difficult environments and some of the most remote parts of the world, significantly accelerating the equipment maintenance and RESET requirements. Our supply chains operate across international boundaries where we have little or no military presence.

In Iraq and Afghanistan, our supply chain operates over enemy-challenged ground lines of communication, adding significantly both to the cost of our equipment and the personnel needed to provide security.

Nonetheless, in January through May of this year we moved almost 80,000 troops and over 280,000 short tons of materiel fully supporting the requirements in Iraq and Afghanistan. And we are today processing approximately 6,000 requisitions each day for our Army and Marine Corps troops there.

In supply chain operations, a primary output metric of performance is customer wait time—how long it takes from the time a customer orders an item until it is received. Last year, we reported that we had achieved a 33-percent reduction in customer wait time from fiscal year 2004 through April 2006, from an average of 24 days to 16 days. Since then, we have achieved another 6-percent decrease in wait time, despite the surge of our deployed forces and despite continuing difficulties with our ground lines of communications. Where possible, key commodities and components are now stocked forward and delivered as soon as they are requested.

While supporting the warfighting effort, we continue to make improvements in our supply chain operations, and I would like today to highlight three areas of focus.

First, we are continuing to institutionalize the supply chain operations improvement plan efforts. These include initiatives to integrate transportation operations across DOD, to achieve global asset visibility both for our inventories and for our in-transit shipments, and to consolidate inventory management and supply and storage activities. General Schwartz and General Dail will report on some of these key initiatives.

Second, we are integrating life cycle management principles into our acquisition and sustainment programs. This effort focuses on improving equipment reliability and reducing the long-term, cost-effective support for a system as part of an integral process during the acquisition approval steps.

Finally, we are developing the concept of joint logistics portfolio governance. The intent of portfolio governance is to coordinate development of related logistics capabilities across the Department, to improve interoperability, to minimize capability redundancies and gaps, and to maximize cost-effectiveness. The logistics portfolio management test should be completed later this year.

The results of our life cycle management initiative, the logistics portfolio test, and our supply chain management improvement efforts all will be incorporated in the Department's logistics strategic plan, called the "Logistics Roadmap." The development of this Logistics Roadmap should be completed by the summer of 2008.

Based on the significant progress that DOD has made in supply chain management, in December 2006, the Under Secretary of Defense for AT&L requested that GAO remove supply chain management from its high-risk list. GAO declined, stating that DOD has not yet met key requirements for removal from the high-risk designation. Based on our progress to date, DOD believes we have met and are meeting these requirements. Key output metrics and data system support are being put in place, and performance improvements are already showing in these metrics.

The institutionalization of key initiatives is testament that we have the will, we have the commitment, and capacity to address these challenges on an ongoing basis, transcending leadership changes. We will continue to work with the GAO to earn their support in removing supply chain management from their high-risk list.

In closing, DOD appreciates the opportunity to explain our progress in improving supply chain management. Following the testimony of my colleagues, I will be happy to answer any questions. Thank you.

Senator AKAKA. Thank you very much, Mr. Bell. General Schwartz, your testimony.

GENERAL NORTON A. SCHWARTZ,[1] COMMANDER, U.S. TRANSPORTATION COMMAND, U.S. DEPARTMENT OF DEFENSE

General SCHWARTZ. Mr. Chairman, Senator Voinovich, it is a privilege to be with you today representing the more than 152,000 people that are a part of the U.S. Transportation Command family. Our core mission is to provide outstanding support to the warfighter and the Nation by rapidly delivering combat power and sustainment to the joint force commander. We also redeploy our forces home and provide the utmost care in moving our wounded troops to more advanced medical facilities here, in Europe in the case of the current missions, or in the United States.

In our role as the distribution process owner, USTRANSCOM serves as the quarterback of the joint deployment and distribution enterprise. We lead a collaborative effort within the Defense Logistics Community to develop and pursue system-wide distribution process improvements to increase the precision, the reliability, and the efficiency of the DOD supply chain that you referred to earlier. When fully developed, this enterprise will aid us in fulfilling our fundamental obligations and keeping our promises to our warfighters in the Nation today and tomorrow.

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[1] The joint prepared statement of Mr. Bell, General Schwartz, and Lieutenant General Dail appears in the Appendix on page 27.

Mr. Chairman, one of the enterprise initiatives I would like to bring to your attention is the Defense Transportation Coordination Initiative (DTCI). DTCI is an effort to increase the effectiveness and efficiency of DOD freight movements in the continental United States—the lower 48, if you will. USTRANSCOM, in partnership with General Dail and the Defense Logistics Agency and the military services, is currently selecting a transportation services coordinator to manage these DOD freight movements. This coordinator will have visibility of CONUS freight movements enabling load consolidation, use of more efficient intermodal means of transportation, and importantly, more intelligent scheduling. These improvements will increase the precision and reliability of freight movements leading to increased customer confidence, cost savings, and not unimportant, increased and more effective workforce management.

Use of a single coordinator will also help us gather the metrics that you and we seek collectively to drive continual process improvements in our distribution system. With the planned contract award next month, we are now only weeks away from implementation and look forward with great anticipation to the very positive changes I believe that DTCI will have on DOT transportation, writ large.

Just as DTCI will improve commercial transportation, our Joint Deployment and Distribution Operations Center concept is improving integration of this from the strategic to the tactical level. Creation of the so-called JDDOC was the first major distribution process owner initiative and addressed the longstanding need to improve integration of strategic, that is, national partner activity here in the United States and that which is occurring in theater under the supervision of the combatant commander. JDDOC has since matured into a critical node for improved end-to-end distribution.

Let me give you an example. Let me compare two moves of the 10th Mountain Division to the Central Command AOR, one in 2005 and one in 2006.

The 2005 move was planned entirely by air—that is, the movement of their helicopter assets—and it ran into a number of problems, including weather delays, customs lead time, commercial to organic transload requirements, materiel visibility, and limited jet fuel in some locations. Thinking that there must be a better way, the DDOC, the Central Command, the European Command, many players, the services, worked together to develop an air and sea solution, that is, something called in the industry "intermodal solution." That included a transload operation at Rota Air Base in Spain. And by using this multi-mode approach, we were not only faster, sir, we actually delivered 4 days sooner than the 2005 scenario, and it cost the taxpayers $2 million less to execute.

I would argue that this kind of thing is an example of precise, reliable, and efficient delivery to the warfighter. And in retrospect, this multi-modal solution may seem self-evident, but solutions do not always present themselves linking the supported combatant commanders to the distribution national partners without having one entity as the quarterback of the process. The result of these efforts is that each geographic commander now has one of these operations centers, and the concept is being codified in doctrine, policy, and training.

The DDOC continues to mature, and later this year we will publish the third edition of the template, which will incorporate, sir, performance metrics and guidance for the geographic combatant commanders on how we collectively can execute this mission.

Finally, sir, in 2006, Under Secretary of Defense Krieg designated our command as the functional proponent for radio frequency identification and related automatic information technology in the Department. Under this designation, we will prepare and execute an implementation strategy and draft the corporate approach for active and passive RFID, satellite tracking, use of bar codes, and other asset visibility technologies.

We have recently published the concept of operations for this to improve the overall performance for the warfighter, and our goal is to publish the implementation plan this fall, which will address both asset visibility and your considerations in terms of improving the supply chain.

Mr. Chairman and Senator Voinovich, I am grateful for the opportunity to testify today, and I would be happy to discuss these very important issues that you have tracked for so many years. Thank you, sir.

Senator AKAKA. Thank you very much, General Schwartz. General Dail, your testimony.

LIEUTENANT GENERAL ROBERT T. DAIL,[1] DIRECTOR, DEFENSE LOGISTICS AGENCY, U.S. DEPARTMENT OF DEFENSE

General DAIL. Good afternoon, Chairman Akaka, Senator Voinovich, and distinguished Members of the Subcommittee. I am Lieutenant General Robert Dail, Director of the Defense Logistics Agency. It is my privilege to appear today and represent the more than 21,000 men and women of the agency who, for more than 40 years, have provided responsive global logistics support to America's Armed Forces in peace and in war. We are a combat enabler, a supporting organization, dedicated to improving warfighter support to the combatant commands and supporting the ongoing combat operations in Iraq and Afghanistan.

I am here today to talk about how we accomplish our mission through close collaboration with the military services, the combatant commands, the distribution process owner and with General Schwartz, to my right, at U.S. Transportation Command. We are a link between our warfighters and the great American industrial base.

DLA is an integral part of the military logistics system. The Army, Navy, Air Force, Marine Corps, and Coast Guard rely on DLA supply centers to source and provide food, fuel, medical supplies, clothing, construction and barrier material, and we also provide more than 90 percent of aviation, land, and maritime weapons systems spare parts. We receive, store, and issue DLA and military service assets at our distribution centers located across the continental United States, Hawaii, and in key en route infrastructure locations overseas. Our Defense Reutilization and Marketing Service is a key partner in the reuse or disposal of property no longer required by the individual military services.

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[1] The joint prepared statement of Mr. Bell, General Schwartz, and Lieutenant General Dail appears in the Appendix on page 27.

In recent years, DLA and the U.S. Transportation Command, the Department's strategic mobility provider and life provider, and as its distribution process owner, have forged a very strong partnership that seamlessly connects warfighters' requirements with the American industrial base. This partnership, part of the USTRANSCOM's DPO charter, helps synchronize key DOD supply chains, ensuring that material arrives in theater, on time, to the warfighters who need it.

The past 2 years have been very busy for the Defense Logistics Agency, U.S. Transportation Command, and the military services as we have worked to transform and employ new methods and capabilities to manage DOD's supply chains.

I have listed and discussed the various joint supply chain initiatives in my formal written statement to the Subcommittee: The Joint Deployment and Distribution Operations Centers (JDDOCs) that General Schwartz mentioned; the Joint Regional Inventory and Materiel Management Initiative that, Mr. Chairman, you mentioned in your opening statement. These are initiatives that we have undertaken with the various combatant commands.

The Radiofrequency Identification Technology initiatives and the Integrated Data Environment, Global Transportation Network Convergence Initiative that we have undertaken with the U.S. Transportation Command, and the Integrated Logistics Partnerships that we have begun just recently in 2006 to partner with the military services that promise great savings and economy while increasing output tremendously. Each of these initiatives has improved readiness and response times. They have provided warfighters the agility that they require to be successful wherever they operate around the world.

Finally, Mr. Chairman, the Defense Logistics Agency remains committed to ensuring that America's fighting forces are the best equipped and supplied of any force in the world. We pledge to use America's resources wisely while continuing to support high levels of readiness in the military services. Our Nation and our freedom depend upon it.

I thank you, Mr. Chairman, and Senator Voinovich, for your leadership, in making sure our Armed Forces continue to be strong.

This concludes my statement, and I look very much forward to answering your questions.

Senator AKAKA. Thank you very much, Lieutenant General Dail.

Now we will hear from Bill Solis.

STATEMENT OF WILLIAM M. SOLIS,[1] DIRECTOR, DEFENSE CAPABILITIES MANAGEMENT, U.S. GOVERNMENT ACCOUNTABILITY OFFICE

Mr. SOLIS. Chairman Akaka, Senator Voinovich, thank you for the opportunity to provide an update on the progress made by the Department of Defense for resolving longstanding problems with supply chain management. The challenges to successfully improving the management of DOD's vast and complex supply chain network are formidable, and your active involvement has been and will continue to be vital to keeping attention focused on this important aspect of DOD's business and logistics support operations.

My comments will focus on four issues: First, DOD's overall progress in implementing its supply chain management improvement plan; second, its progress in implementing joint theater logistics, one of the 10 initiatives in DOD's plan; third, I will discuss other recent work we have completed on aspects of supply chain management; and fourth, and finally, I will address broader, though related, issues of defense business transformation, logistics governance, and strategic planning within DOD.

Regarding DOD's supply chain management plan, DOD has shown progress in developing and implementing its improvement initiatives, which are intended to address three main focus areas: Requirements forecasting, asset visibility, and material distribution. As previously mentioned, DOD has established Joint Deployment Distribution Operations Centers in each geographic combatant command, following the reported success of the first such operation in Kuwait. DOD has also reported initial success with a storage and distribution initiative known as Joint Regional Inventory and Material Management. In March 2007, the DLA was tasked to be the lead proponent for the continued worldwide implementation of this initiative. Furthermore, in the Defense Transportation Coordination Initiative, DOD has taken numerous actions to incorporate the lessons learned from a prior prototype program and, moreover, has taken positive steps to adopt best practices employed by other public and private organizations.

Despite these examples of progress made, since the last hearing before this Subcommittee in July 2006, we have not seen significant changes in how DOD proposes to measure the impact of these initiatives in its plan. As before, the plan contains four overarching performance measures, but these are not well-linked with the individual improvement initiatives or the three focus areas, limiting DOD's ability to fully demonstrate the results achieved through its plan. Furthermore, some of these initiatives are in their early stages, with full implementation several years away.

Regarding joint theater logistics, we found in our recent work that DOD has not taken a coordinated and comprehensive management approach to guide and oversee this initiative. Rather, development and implementation of joint theater logistics has been fragmented among various DOD components largely because of a lack of specific goals and strategies, accountability for achieving results, and outcome-oriented performance measures.

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[1] The prepared statement of Mr. Solis appears in the Appendix on page 49.

Further, DOD faces challenges that hinder specific joint theater logistics efforts to improve distribution and supply support to the warfighter. For example, initiatives to improve the coordination of surface transportation assets, mainly trucks, in a theater of operations face challenges such as potential duplication of responsibilities, the unavailability of information technology tools, and unclear lines of command and control.

Despite the benefits attributed to the Joint Deployment Distribution Operations Center in Kuwait, effective management of supply distribution across the theater has been hindered by ongoing problems in achieving asset visibility. Senior military commanders in Kuwait attributed these problems to a lack of interoperability among information technology systems that make it difficult to obtain accurate and timely information on assets in the theater.

We also found continuing problems with container management that hinder asset visibility and impede DOD's ability to effectively manage logistics operations and costs. Some challenges that DOD faces with container management include the application of radio frequency identification tags on containers in the supply chain, compliance with container management processes, and the return of commercial containers to maritime carriers.

Our other recent work has identified continued systemic weaknesses in aspects of DOD's supply chain. In February, we reported that problems continue in managing Army's prepositioned stocks. Despite recent efforts to improve requirement setting, the Army has not yet determined the reliable requirements for secondary items and operational project stocks.

In March, we reported that the military services are experiencing difficulties in estimating the length of time between the initiation of a procurement action and the receipt of spare parts into the supply system for equipment and weapons systems.

In April, we reported continuing problems in Air Force's inventory management practices, hindering its ability to efficiently and effectively maintain its spare parts inventory for military equipment.

Specifically, from fiscal year 2002 through 2005, an average of 52 percent, or about $1.3 billion, of the Air Force's secondary on-order inventory was not needed to support on-order requirements. Further, about 65 percent, or about $18.7 billion, of on-hand inventory was not needed to support required inventory levels. We calculated that it also costs the Air Force from $15 million to $30 million a year to store its unneeded items.

Finally, I would now like to turn to broader issues affecting supply chain management. Transforming and improving defense business operations are integral to resolving supply chain management operations. Because of the complexity and long-term nature of the business transformation, we have stated that DOD needs a Chief Management Officer with significant authority, experience, and a term that would provide sustained leadership and the time to integrate DOD's overall business transformation efforts. Based on our work, pending legislation, and other recent studies, it is clear that a broad-based consensus has emerged that the status quo is no longer acceptable.

As our work on joint theater logistics indicated, DOD may also need to re-examine fundamental aspects of logistics governance and strategy. The diffused organization of DOD's logistics operations, including separate funding and management of resources and systems, complicates DOD's ability to adopt a coordinated and comprehensive approach to joint theater logistics. In this respect, joint theater logistics may serve as a microcosm of some of the challenges DOD faces in resolving supply chain management problems.

In the governance area, DOD has been testing, as mentioned, a new approach to managing joint capabilities as a portfolio, but key decisions are still to be made on how to implement this approach. In addition, DOD plans to develop an overarching logistics strategy, but has delayed the completion of that strategy until sometime next year.

In closing, DOD officials believe that the commitment they have demonstrated to resolving supply chain problems, including the development of the plan and making progress in implementing initiatives, justifies removing this area from our high-risk list. In preparing the January 2007 biennial update to the high-risk list, we decided that notwithstanding the positive steps taken by DOD to address problems, supply chain management should remain on our high-risk list until DOD can successfully demonstrate improvements in requirements forecasting, asset visibility, and materiel distribution. The work we have completed since January 2007 reaffirms our decision to retain supply chain management as a high-risk area.

We look forward to continuing our work with the Department to provide an accurate appraisal of the progress toward the goal of successfully resolving problems that have hindered effective and efficient supply chain management.

Mr. Chairman, Senator Voinovich, this concludes my prepared remarks. I will be happy to answer any questions.

Senator AKAKA. Thank you very much, Mr. Solis.

General Schwartz, according to GAO, the Department has bought out over 25,000 containers that were accumulating detainment fees. This cost taxpayers about $203 million, and now the containers belong to the Department of Defense. In addition to this, we have lost over 54,000 containers.

What do you plan to do with all of these containers? Do you, for example, plan to sell any of these to recoup some of those costs?

General SCHWARTZ. Mr. Chairman, let me address that by first articulating how we got to where we are at. You are quite right that this is an area that has been difficult to manage.

Let me take you back to October 2001 and try to describe the picture of missions beginning to occur in Afghanistan. It is a landlocked country. It is not a country with a lot of developed transportation infrastructure. There isn't a single oil refinery anywhere in the country, for example. And so we were very much in an expeditionary mode in that time frame, beginning combat operations. And so containers were used for many different things there. They were used for storage. They were used for places for people to sleep. They were used for force protection purposes. You can imagine the various uses. And so unquestionably there was a large number of detained containers that belonged to carriers that were put to use in ways that commanders on the ground felt was necessary in order to accomplish their missions.

Now, with that as background, we beam forward several years. The current numbers that I have for containers in the Central Command AOR is there are about 110,000 government-owned containers, about an additional 30,000 which are leased, and then there are about 4,400 which are under detention, i.e., carrier owned but in our possession, about 3 percent. That is at least a third of where we once were.

So how did we make the improvements over time from a completely expeditionary mode to something more in the sustainment mode and to where we are now driving the numbers down further? Two major things. In the early days, sir, we did not have a dedicated element to manage containers in the theater, nor did we have software that would do this. We do now. We have a dedicated container management element in Central Command that works, both the management, the training of people in logistic elements in the various commands in Afghanistan and in Iraq, and likewise maintains the database. So what we have done is dedicate resources to managing both the assets and the problem.

To conclude, sir, your question about what do we do with those assets we own, as you are aware, the government maintains a certain number of assets, whether it be airplanes or ships or containers or pallets for loading airplanes in reserve for those moments when we might be called upon to surge. So we will maintain in reserve status a number of containers so that we don't run into the scenario we had in Afghanistan again, that instead of sending carrier containers into an austere area, we will send government-owned containers.

Second, the excess amount of containers, what we will try to do, frankly, is find folks who we can lease them to for use, and we can get them back if that is necessary. So there is a business piece to this in terms of making them available to industry for use, and then there is a part to it for having a reserve so that we don't again fall into the situation where we don't have enough containers, that we have to use commercial ones to do our mission.

Thank you, sir.

Senator AKAKA. Thank you, General Schwartz. I am wondering though, did these containers make it to their destinations? What were in those cointainers, and were they empty when we lost them?

General SCHWARTZ. Sir, I am sure it is some of all of the above. It is important to understand that, again—and you have traveled to both Afghanistan and Iraq. I know both of you have. You will see containers being used for a number of functions. For sure there are no more carrier containers that are out there being used for storage and so on. But I think it is key to understand that we got on top of this once we recognized how severe the problem was, and I believe that we are on the glidepath here not only to correcting the problem in the short term, but having a longer-term posture which is correct for the Armed Forces.

Finally, sir, I think it is important to recognize that much of the container detention was not dry goods. These were refrigerated containers. And, again, if you think back to the Afghanistan scenario, there was not permanent cold storage in Afghanistan. And so one of the things that occurred was use of refrigerated containers to store foodstuffs for our troops that we now are building some temporary sort of permanent cold storage to compensate. But that occurred several years after the initiation of combat operations.

Senator AKAKA. Thank you. We will have another round. Senator Voinovich, your questions.

Senator VOINOVICH. Mr. Solis and Mr. Bell, I am concerned that the substantial progress that we have seen in the supply chain management will be lost with the change in leadership due to a new Administration. We are running out of time. In your opinion, does the supply chain management improvement plan that you have worked very hard on, have the necessary metrics in place to institutionalize the progress made and ensure that no time is lost with the change in leadership?

Mr. BELL. Thank you, Senator Voinovich. We are concerned about several levels of institutionalizing the progress that we have made, and we are focusing on those areas. For example, for the distribution process owner authorities, we have worked very diligently to get approval of the internal direction, the directive, and the instructions that are necessary to institutionalize that function to transcend administrations. That process has been completed. The coordination is done. We expect those to be signed up within the next 2 weeks. They are both up in the Under Secretary's office and the Deputy Secretary's office for signature.

Similarly, we are working on institutionalizing the introduction of metrics for measuring supply chain performance. One of the functions of the joint logistics portfolio governance test has been to test the use of metrics across the entire supply chain from the vendors actually all the way through the theater logistics commands and theater support logistics to the end user, and customer wait time and time-definite delivery and perfect order fulfillment are key output metrics that we believe as a result of the governance test we can institutionalize.

The next component, though, to institutionalize them is we have to have certain enabling capabilities such as global asset visibility, which we are working on with our RFID, both sensor-based and satellite-based. We have to develop those capabilities to have real-time visibility in where our assets are so that we can measure how we are performing in terms of customer wait time or perfect order fulfillment.

We think there are some challenges involved in that process, but we are making significant progress, we believe, so that it will not only transcend the change in political administrations, but will also transcend the normal rotation of military leadership in some of the key joint functions.

Senator VOINOVICH. Mr. Solis.

Mr. SOLIS. I would offer that as it pertains to the plan, there are still——

Senator VOINOVICH. Mr. Solis, Deputy Secretary England has asked for Supply Chain Management to be removed from the GAO high-risk list. Was a lack of metrics a reason for not removing a supply chain?

Mr. SOLIS. Well, I think that is part of it. I think there are other reasons, as I mentioned in my oral statement. But pertaining to that, I think six of the ten initiatives do not have any outcome measures that are associated with it. Also, I think nine of the ten initiatives still do not have any cost metrics. And so it becomes difficult for us or anybody else to measure how they are doing on the particular initiatives.

Let me be clear. Each one of these organizations here has their own internal metrics, but the linkage of their metrics, as it relates to the plan, as it relates to the initiatives in the plan, and how it relates to the four overall metrics in the plan is not clear. And that is why we talk about the lack of metrics. It becomes difficult to measure the progress, as it pertains to these particular initiatives.

Senator VOINOVICH. You just heard from Mr. Bell. What is your comment about what he just indicated? And has there been any communication in the last several weeks or months dealing with what he just talked about in terms of metrics?

Mr. SOLIS. Well, I know we have committed to get together and talk as we have in the past. We will continue to have these discussions, probably even shortly after this hearing.

Senator VOINOVICH. Well, one of the things that I was pleased about and I know Senator Akaka was pleased about is that we requested that the Department of Defense, the Government Accountability Office, and the Office of Budget and Management come together and develop kind of a consensus on what the plan should be. And from what I understand, that has come along quite nicely. But what you are saying is that in some of these areas, you just have not had a meeting of the minds.

Mr. SOLIS. Well, DOD has a plan, but again, some of the initiatives are still a ways off and, in fairness, some of them are just beginning. Also, in our view, they are still lacking the outcome measures that we would like to see so that we can better see where they are in terms of the progress.

Senator VOINOVICH. I would like to have you prepare a list—some of that is in your testimony, but prepare a list, get it over to Mr. Bell, have him respond to it, and see if we cannot stay on top of this so that maybe 6 months from now, when you come back, you can all say that you have worked something out and that you agree on it.

Is RFID working out as well as you believed it would? What kind of help did you get from the private sector?

General SCHWARTZ. Senator, if I may at least lead, RFID has a number of applications. It has applications in terms of in-transit visibility, containers that are moving and so on. It also has applications in terms of inventory management, and General Dail can address that in greater detail. But an important notion here is that while—I have been to Bentonville, Arkansas, we will soon visit Best Buy, and there are very fine companies out there employing various aspects of RFID, whether it be passive or active or otherwise.

The one thing to appreciate, there are some differences about our business models, if you will. In the end, Wal–Mart stores don't move—ours do. And so there are some differences here that one has to accommodate. Nonetheless, they are a powerful example to us, and we are pursuing putting the right kind of RFID on the right purpose.

For example, active tags cost at the moment $65 apiece. They are expensive. They hold lots of data. You can put one on a container, and it can tell you every single box that is in the container.

Passive tags, on the other hand, are maybe 65 cents apiece, and at that kind of economics, you can maybe put a passive tag on every box. And General Dail can use that in his warehouse if he chooses to.

The key point here is that there are different kinds, and it is important to apply the right kind of technology to the right problem. And I think in the case of Wal–Mart, if you have been reading the literature, they implemented a passive ID strategy, and they have been adjusting this a little bit. They discovered that it was not producing the outcome that they desired.

So there is still some experimentation going on, sir, and very importantly, we are committed to this. Our plan for executing this on behalf of the Department will be certainly available for your perusal in the September time frame, and it will include both the in-transit segment and the inventory management segment.

Senator VOINOVICH. Could I ask just one more question, Senator Akaka, to follow up on that?

Senator AKAKA. We will have a second round. Thank you, Senator Voinovich.

Mr. Bell, your testimony says that the Logistics Roadmap plan will now be complete next summer.

Mr. BELL. Yes, sir.

Senator AKAKA. This is more than a year after what we were told last year. You say that it will be released after finishing up the logistics capability portfolio management tests. Why does a document that will contain "planned and desired capabilities" have to rely on this current test?

Mr. BELL. One of the reasons is that the concept of portfolio governance is a different concept of how we work towards support of the joint warfighting effort in dealing with the current authorities that we have within the Department of Defense in which there are significant Title X authorities that are vested with the services, and the question is how do we integrate those most effectively.

The governance concept looks at taking a cross-department view of the development of capabilities. We think it is critical in terms of the Logistics Roadmap that we adopt that cross-department view of governance in developing our capabilities going forward, and that is the reason we made the decision to defer completion of the roadmap until we could see the extent to which we could apply this governance concept in getting to a joint approach to the whole Department's capabilities.

Senator AKAKA. Since it has been delayed for over a year because of testing of one new capability, what is to stop it from being delayed again? Can you commit to this Subcommittee that you intend to have the roadmap by next summer?

Mr. BELL. We certainly do intend to do that. We think this delay, while it seems to be unusually long for a single-capability view, is actually a critical step forward in developing a joint approach to governance as the DPO concept has been, as the defense logistics executive concept has been. Otherwise, we obviously would not have deferred completion of the roadmap until we had finished this test.

Many elements of the so-called Logistics Roadmap are well developed. Many of the metrics in terms of output metrics of supply chain performance we believe are falling into place. We can develop the capabilities to measure performance against those metrics. While we have some disagreement with GAO regarding metrics associated with specific improvement initiatives within the overall improvement plan, I believe GAO would acknowledge that, in terms of supply chain overall performance metrics, we are focused in the right direction.

So many of the elements of the Logistics Roadmap are well in place, and we think with the addition of this concept of joint governance across departmental lines, it will be a significant improvement in our capabilities.

Senator AKAKA. I understand that TRANSCOM is working on an internal plan called Theater Enterprise Deployment and Distribution (TED2). Is the TED2 document related to the Logistics Roadmap currently under development at DOD, General Schwartz?

General SCHWARTZ. Chairman, it is indirectly related, but it is an independent initiative, and it is an example of what I would call portfolio management with a small P and a small M, not the capital P, capital M that the Secretary was addressing.

What we are doing is recognizing that in the theater there are multiple systems. Senator Voinovich mentioned that some cannot talk to one another; they don't interact easily in terms of data transfer and so on. This particular initiative is producing results in terms of narrowing down the numbers of systems and making sure that, in fact, they are interoperable.

A case in point: We currently have two port management systems. One is called the Worldwide Port System. It is an Army-developed product. And then there is a system called the Global Air Transportation Execution System (GATES), which is an Air Force product.

Now, where we all came from, services develop their own systems, and at one time there was not the emphasis on assuring interoperability and so on. And what we are doing is converging these two to a single port system so that if Marines arrive or Army arrives or Air Force arrives, we will be operating essentially the same piece of software. That is the kind of portfolio management I am doing as the distribution process owner, and it applies, at least indirectly, to this notion that you referred to earlier.

Mr. BELL. If I may, in fact, those kinds of portfolio views across the Department in terms of developing interoperable capabilities is exactly what the overall portfolio governance test is about.

Senator AKAKA. I have a final question, but before I ask it, let me ask Senator Voinovich whether you have any further questions.

Senator VOINOVICH. Yes, I do.

Senator AKAKA. Will you proceed?

Senator VOINOVICH. Thank you. Mr. Bell, your tenure will end with this Administration. Is that right?

Mr. BELL. Yes, sir.

Senator VOINOVICH. General Schwartz, how many years do you have left in your current job?

General SCHWARTZ. Sir, at least until the summer of 2008 I think is what the Secretary has indicated.

Senator VOINOVICH. General Dail.

General DAIL. Sir, I am intending to stay in this position for an indefinite period until my period of service is over. I would certainly think spring of 2009.

Senator VOINOVICH. General Schwartz, you have been in your position for how many years?

General SCHWARTZ. Almost 2 years, sir.

General DAIL. Sir, I was his deputy for 2 years and then moved to DLA just this past year. I have been in my job about 10 months.

Senator VOINOVICH. One of the things that really disturbs me is the change of responsibilities is much too quick in the military. I remember Wright-Patterson Air Force Base where people would come in 3 years and then out they go. This does not really lend itself to transformation.

Do you have civilians that are underneath you that are going to be around for a while? I would like to know how long you are going to be in each of your positions and who are the people that report to you and how long are they going to be around.

When you put together your plan to reform or transform, do you have a list of things based on the potential to save money? Did you approach them with the idea of saving money, or did you look first to see what the low-hanging fruit was and then thought, well, we can knock these off easy and we will get on with the other ones after we have done the easy stuff?

General SCHWARTZ. I have to answer yes to both.

General DAIL. It is a combination.

General SCHWARTZ. It really is. We are, Senator Voinovich, taking a concerted business case approach to this, and that is why use of satellite technology, for example, has application in a place like Pakistan, where we are moving cargoes from Karachi into Afghanistan over a ground line of communication without any military footprint whatsoever. And so that is a place where a satellite tracking capability perhaps has an application. But it is expensive, and so you are not going to do that on a line of communication over which you exercise exclusive control.

So the bottom line is our approach to this, as I indicated earlier, is to apply the right technology to the right problem, and it has to have a business case.

Senator VOINOVICH. When you started this project, if I asked you do you have a number that you thought you might save as a result of putting this new system in place, and then to be able—so you can compare? You said $65 for one gizmo and 65 cents for what you called passive.

General SCHWARTZ. Right.

Senator VOINOVICH. Have you got those numbers on a piece of paper so you can compare them?

General SCHWARTZ. I can provide that for you for the record, sir.[1] I think it is accurate to say that our initial motivation on this was to provide in-transit visibility. An example, on December 21, 2006, sir, if you would buy your wife a gift off the Internet for Christmas, you get a tracking number, and you put that into one of the websites for the major transportation carriers, and you can see that box coming to you. As long as you can see that gift coming to you, on December 23 you are probably not going to buy your wife a back-up gift just in case the first one you ordered does not make it because you do not want that to occur.

Believe it or not, supply sergeants operate exactly the same way, and so the initial purpose of this was to provide that visibility of that product moving through the supply chain, so that we changed behavior at the receiving end.

So part of this was behavioral, was transformation organizationally, and so on. There is a business case for RFID, and I will be happy to provide that to you for the record, sir.

General DAIL. Sir, if I can just add one comment, the Chairman mentioned earlier about the Joint Regional Inventory Materiel Management Initiative we have in Pearl Harbor that will support all four of these service components on the Island of Oahu. When we entered into the next phase, which we will again this coming fiscal year, our intent is to take radiofrequency identification technology and, with the help of General Schwartz and his command, instrument up the island. And then I will purchase some additional stock and position it at Pearl Harbor.

We think, as we have discussed with the services, that the return, because of the confidence level that it will have with visibility of stock on the island and coming from the United States en masse in horizon lines coming into the State, that we will be able to get that replenishment on the surface transportation and not have to use air transportation and military aircraft. And that will save the services $2 to $3 million a year, and we think that is a business case that for the first time we have been able to apply to an actual initiative that we have been able to do together at USTRANSCOM and the Defense Logistics Agency.

So I think sometimes we do take low-hanging fruit, but sometimes I think we have been able to apply a business case to an initiative and a new way of doing business on the island of Oahu.

Senator VOINOVICH. Finally, if I asked you what equipment you now have in Iraq—humvees and Strikers and so on and so forth—could you tell me what you have there?

Mr. BELL. I think we could provide that report to you, sir, from the services.

Senator VOINOVICH. Do you have any idea what percentage of the equipment that we have in the total Defense Department is there—15 percent, 20 percent, or 50, 75, 80 percent? Does anybody know that?

Mr. BELL. Rather than guessing, I would rather take that as a question for the record if we could.

Senator VOINOVICH. I would like that very much. Thank you.

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[1] Copy of the "Business Case Analysis for Radio Department of Defense Passive Radio Frequency Identification," submitted for the record by General Schwartz appears in the Appendix on page 307.

Senator AKAKA. Thank you, Senator Voinovich. Let me get into a third round, and this is for the three of our DOD witnesses. When we eventually begin redeploying forces in Iraq and Afghanistan, this moment will present a significant logistical challenge since we have been there for several years now and moved many assets there.

What planning, if any, have you done to ensure that we have the logistics capability to leave the theater and return our assets back to the United States? Mr. Bell.

Mr. BELL. Yes, sir. It is obviously fair to say that we have extensive planning activities currently underway throughout DOD addressing that question so that when the time comes and the decision is made to begin to draw down forces that we will have put in place the capabilities logistically to do that in the right order with the right amount of equipment coming down in the right sequence.

That effort has been underway for some time and is being discussed at all levels, both in CENTCOM in Iraq as well as at the Pentagon.

Senator AKAKA. General Schwartz.

General SCHWARTZ. Sir, I would concur with that. I would say that our objective—and this is really Central Command's objective—is to execute a retrograde, the redeployment, whatever that turns out to be, with the same precision that we would execute a deployment.

To take you back a few years, during the roll-up for Desert Shield/Desert Storm, materiel returned to the United States without good visibility, went to the wrong port, materiel was lost. We will not repeat that exercise. And one of the things we are doing, Mr. Chairman, in cooperation with the Army Materiel Command—General Ben Griffin is a case in point. The Congress appropriated roughly $15 billion to the Army to execute RESET of equipment. My promise to Ben Griffin was he would not lose a vacancy on a RESET line because I did not get the piece of equipment back to him on time. And so we, as a result of working the RESET program, have sharpened our focus and our procedures, are making sure that stuff that is heading westbound arrives at the right port, has the right transportation plan back to the forts and so on.

I am not Pollyannish about the challenge this will be. This will be a major undertaking. But I am confident that we have the procedures in place and the commercial and organic military capacity to make it happen.

Senator AKAKA. General Dail.

General DAIL. Sir, I would echo the comment that General Schwartz made about our entire focus would be on ensuring that we support Central Command's, Admiral Fallon's plans to execute whatever operations that he would undertake. Defense Logistics Agency is a largely contractual operation, so we have already begun planning about what kinds of capabilities we would need to increase to support a redeployment of some sort in the future. In our case, Defense Reutilization and Marketing Service, which deals with the reuse, disposal, proper handling of hazardous materials, those kinds of movements and retrograde operations back to the continental United States or some other locale that may have a vendor that may want to procure some retrograde material or scrap, to the point where we may want to increase some of our other contractual capabilities in Kuwait and some other areas to support a precise redeployment of capability. We are linked at this point in time with the proper folks in U.S. Central Command, U.S. Transportation Command.

Senator AKAKA. Mr. Solis, GAO did not make any recommendations relating to container management, yet I see it as one of the more interesting parts of your report. Do you think that container management is just a symptom of overall management issues?

Mr. SOLIS. Well, from my perspective, I think it has been a longer-term problem, and I would even go back beyond 2001. When I think back to the first Gulf War, you heard a term referred to as "Iron Mountains," and those were referring to not only just the equipment, but all the containers that were piling up. So this is, again, one of the reasons why we felt it was something that needed to be addressed in the longer term.

As we looked at this, we first reported on the problems back in 2003 about the containers and the lack of visibility. As our current work has shown, there is still a problem. However, there are efforts by the Department and TRANSCOM to try to get a handle on it. I think what we are going to do is probably track that as it moves to see how this pans out over the next several months or year to see if they get a hold of this.

Senator AKAKA. Do you think the container problem has been solved?

Mr. SOLIS. I think it remains to be seen. In fact, one of the enablers to track this, of course, is the RFID tagging system. And as we mentioned in our JTL report, there are still inconsistent applications, such as whether the tags are on there and whether the information on the tags is accurate. And so I think there are still issues related to whether they are going to be able to track those containers given the processes that are currently in place.

As General Schwartz mentioned, Afghanistan is another issue, and it could be problematic just in terms of the geographics itself. So, again, I think it remains to be seen over the next several months or so to see how the handle will be—how they will get a handle on this in terms of dealing with the issue.

Senator AKAKA. Finally, let me ask Mr. Bell—and I am tagging this onto a question that Senator Voinovich asked, too. I would like to end with a question about sustainability of the Department's efforts in supply chain management. In less than 18 months, there will be a new Administration running the Department of Defense. What steps are you taking now to ensure that progress made so far does not end when the civilian leadership turns over at the Pentagon?

Mr. BELL. Thank you, Chairman Akaka. Several important steps we have underway. As a team here, we are focusing in our overall supply chain management efforts to institutionalize all of the key elements of the improvement program, and you have heard different elements of that described today.

On a personal basis, within my shop, I have identified and designated a Principal Deputy, Assistant Deputy Under Secretary of Defense, who is well known to you, Alan Estevez, who has reported to you frequently, who will have the responsibility for managing the transition on the carry-through on all of the items that we have in implementation. And Mr. Estevez, as you know, has been intimately involved in the whole supply chain improvement program during this period.

We are also working with the other commands to make sure that the elements that we need to have in place get sufficiently documented so that when there is a transition occurring in Administrations, our plan is to have a transition handover book available for the new Administration that identified all the new initiatives and all of the key points of contact within the Department of Defense that are working on these initiatives.

Senator AKAKA. Thank you very much. Senator Voinovich.

Senator VOINOVICH. General Schwartz, to improve end-to-end supply distribution, the Secretary has designated your command as the Department's Distribution Process Owner. However, GAO has noted instances of overlapping roles and responsibilities in the Department that the Department clearly define the responsibilities and authorities of the DPO in relation to other players in the distribution process as an issue of chain of command.

This past April, the Defense Business Board recommended that DOD take steps to clearly identify decisionmaking authority for supply chain integration and to clearly define responsibilities and authorities for all players in the supply and distribution process.

To what extent do the DPO responsibilities and authorities need further clarification? Do you have the necessary authority to break through the stovepipes in DOD's supply chain and logistics system in order to improve the efficiency of the overall system? In other words, once you get it done, are you in a position where you could make it happen? Do you have the authority?

General SCHWARTZ. I do. As a practice, sir, I do not assert dominion. You can accomplish certain things by brute force, but it seems to me that the approach that we have followed is, again, to try to make the case for those things we think are needed, and sometimes there is a bit of friction, and I will admit that openly. But I must tell you that we have not failed to do something that we were committed to do. We have overcome all resistance. For example, recently the Joint Requirements Oversight Council approved our expeditionary port-opening capability. There was some resistance from the services on that initiative. We overcame that because we were persistent.

I think it is important that, as Secretary Bell mentioned, we have our charter document, which is over 10 years old that has not been updated, that soon will be signed out by the Under Secretary and the Deputy. The DPO instruction is soon to be approved, and I would say more importantly, frankly, that responsibility now resides in the Unified Command Plan. And, Senator Voinovich, the Unified Command Plan has the President's ink on it, and everybody gets that.

So I think this is in part a matter of authorities that are documented. I think they very soon will be in an end-to-end fashion. And it is also a matter for us to be persuasive, that this is the way to proceed. And I must tell you—and General Dail can confirm this—that the services recognize the pressures they are going to face in a declining—in a post-Operation Iraqi Freedom environment. And so they are looking for ways to be prudential and more efficient.

What our obligation is is to make a case that is compelling and they will follow our lead. That is what we have seen thus far. In those cases where we have to compel cooperation, the Deputy Secretary has been more than receptive of accomplishing that task on our behalf.

General DAIL. Senator, I would like to add that, in addition to the authorities that he spoke to, I think it is something that you mentioned earlier about a succession strategy and making sure that you have people that continue to stay on long enough to understand what the intent and what the vision is for the DOD supply chain. I served for General Schwartz at U.S. Transportation Command, and my movement to the directorship at DLA—the relationship that we enjoy professionally has made it a lot easier to build these capabilities and these initiatives together. And I think that when we provide a business case, something that is of value to the military services, they have come forward and willingly have asked to participate in these improvements and in these initiatives.

Senator VOINOVICH. So you use the power of the obvious benefit.

General DAIL. Yes, sir.

Senator VOINOVICH. But if that does not work, you can use other methods.

General DAIL. Absolutely, sir.

Senator VOINOVICH. Yes. What was the receptivity to the Business Board's recommendations? And if they were well received, how long do you think it will take you to respond to them?

General SCHWARTZ. Sir, in fact, I, General Dail, and the Secretary met with the Business Board 3 weeks ago, and as I understand it, they are going to brief the Deputy Secretary on the result of that interaction tomorrow afternoon at lunch. And we have an obligation, the three of us do, within a matter of weeks to get back to the Secretary after tomorrow's session with our take on that session.

I think the bottom line is there was fundamentally violent agreement. There is a view that the board has had over time that there should be sort of a King of Logistics, if you will, either a Joint Logistics Command or other such solutions. I personally do not favor that. But beyond that one area of disagreement on how much purview one individual should have in uniform, I think there is agreement with their fundamental argument that we need to document the authorities, we need to make sure that this process improvement mechanism and the supply chain oversight mechanism is well institutionalized. And that is what we will tell the Secretary.

Senator VOINOVICH. And you will get back to the Board, in other words, the Board will come back to them and say here is what we have done as a result of that, and so you will get some feedback from them so they know how you are responding to it.

General SCHWARTZ. Yes, sir.

Senator VOINOVICH. I would just like to finish on this note. I think that you mentioned that the pressure is going to be on the Defense Department, and I think that is a very good observation. I think one of the things that the American people have not recognized is because of the war in Iraq and Afghanistan, the tripling of the amount of money that we spend for the 22 agencies and the Homeland Security, that an enormous amount of money has gone out, and that the nondefense discretionary budget has been squeezed pretty hard. And there is going to be a lot of pressure to get back to putting more money in that area because of the fact that some are concerned about the fact at this stage of the game that maybe we are eating our seed corn and not doing some things that we ought to be doing in terms of our competitiveness.

So I think that the more you can get that message out, the better, and it would be wonderful if, as a result of your work that you or maybe your successor can come in here and say, hey, we really got on this thing, and we are saving this money, and it is really working.

There are a lot of folks out there that really are kind of losing faith in our management. I think one of the reasons why we had such a tough time on the immigration bill is that people just did not believe that we were securing the border. Then after we had the fiasco with the passports, they said again we cannot seem to get things done. And I think we need to restore people's faith, I think, in the management of this government, and I made that very clear to Clay Johnson, who is in charge of Management over at OMB.

So good luck, and thank you very much for your effort. I think it is one of the most worthwhile things maybe you will have something to do with.

General SCHWARTZ. Sir, all I can tell you, in our small bubble, we are committed to restoring people's faith in our integrity and in our capacity to manage this.

Senator AKAKA. Thank you very much, Senator Voinovich.

I want to thank our witnesses for appearing today. Removing supply chain management from GAO's high-risk list is an important task, as you all well know. Inadequate management puts not only our tax dollars at risk but, more importantly, the safety of our warfighters serving overseas.

I find some of the examples cited by GAO very concerning. Issues like container management are only a symptom of a larger challenge that the Department faces. I look forward to continuing to work with the Department of Defense in the future on this issue. I know that Senator Voinovich and I are dedicated to getting supply chain management off the high-risk list.

The hearing record will remain open for 1 week for additional statements or questions other Members may have pertaining to this hearing.

And with that, let me say thank you again, and the hearing is adjourned.

[Whereupon, at 4:12 p.m., the Subcommittee was adjourned.]

A P P E N D I X

Overview of the Department of Defense
Supply Chain and Logistics

Honorable Jack Bell
Deputy Under Secretary of Defense
(Logistics & Materiel Readiness)

General Norton A. Schwartz
Commander, US Transportation Command

Lieutenant General Robert T. Dail
Director, Defense Logistics Agency

Chairman Akaka, Senator Voinovich and Members of the Committee:

Thank you for the opportunity to appear before you and discuss the improvements we have made and current status of the Department of Defense's (DoD) efforts to address areas of risk in the Department's supply chain processes. Attending with me are Gen Norton Schwartz, Commander of the U.S. Transportation Command (USTRANSCOM), and LTG Robert Dail, Director of the Defense Logistics Agency (DLA). It is fitting that we appear before the committee together, for we represent key leadership of the end-to-end supply chain – from the source of supply policy, oversight, and execution through the distribution segment to the customer. We are dedicated to a continuing effort to implement a comprehensive, end-to-end logistics strategy. This is being accomplished, even accelerated, at the same time we are focusing on providing effective support for our currently deployed soldiers, sailors, airmen, and marines. In both areas our mission, vision and goals remain constant:

Mission: Project and sustain a ready, capable total force across a range of military operations and theaters.

Vision: Provide globally responsive, operationally precise, and cost-effective support for America's warfighters whenever they are deployed.

Goal: Provide logistics support that is responsive, accurate, reliable, and accountable, while constantly seeking more efficient, cost-effective ways to accomplish the mission.

It is our obligation as leaders to provide our warfighters with the policy, procedures, systems, and support that they need to be successful today and in the future, and to facilitate cultural change that will institutionalize supply chain process improvements across DoD.

Today we will provide a comprehensive look at the current and future state of logistics and the supply chain by reviewing our recent actions and summarizing improvements we have made since the last hearing in July 2006. We will also address additional actions the Department has undertaken to improve our supply chain management and discuss the governance structure we are implementing to ensure improvements continue through leadership changes.

Before I address those areas, I would like to compliment your respective staffs, and the staffs of the Government Accountability Office (GAO), and the Office of Management and Budget (OMB) who continue to work with the Department's staff in addressing the Department's supply chain management high risk area. Congressional staff, GAO, OMB and DoD logisticians have worked together to monitor progress made towards implementation of key initiatives as part of DoD's concerted plan to address areas of mutual concern. This cooperation speaks highly of the professionalism and dedication of this intra-governmental team. This collaboration extends to the effective working relationship between Mr. William Solis of GAO, who joins us today on this panel, and to senior members of the Congressional staff and OMB.

Logistics and the Supply Chain

The Global War on Terror has forced our warfighters to be more agile than ever before. They can only be as agile, ultimately, as the logistics support structure allows. This means that logisticians must anticipate, where possible, and adapt to changing warfighter needs. With operations and supply chain working together, we are building a capability to move and re-supply rapidly in a continually changing environment by making significant changes in both logistics and supply. At the same time, we also have the responsibility to the American people, particularly as taxpayers, to wisely invest their hard earned money in our Nation's common defense. We must also keep Congress, as the representatives of the American people, well-informed of our efforts.

As DoD representatives have testified before this Committee previously, DoD Logistics is a complex business with over one million uniformed, civilian, and contract employees who support all aspects of the Department's supply chain which accounted for $162 billion in spending in Fiscal Year 2006. The logistics team continues to effectively support our deployed military forces in the face of logistics challenges that have never been greater. Our military forces are deployed to some of the most difficult environments in the world, significantly accelerating the maintenance and reset requirements on highly sophisticated weapons systems and equipment. The need for this support often occurs with short notice and occurs in some of the remotest parts of the world where we have little or no military presence, requiring the supply chain to operate over vast distances, through limited air and sea port facilities, and over very long ground lines of communications that cross multiple national boundaries, and involve significant political and security complexities. It causes us to rely upon our great United States industry partners and their global network of suppliers and transportation partners. Within Iraq and Afghanistan, our supply chain operations function in unsecure environments, over enemy-challenged ground lines of communications, adding significantly both to the level of equipment and personnel needed to provide security protection and to the overall cost of the logistics operation. Our significant dependence on industry partners and civilian contractors for key logistics and sustainment activities requires us to integrate our requirements for their services into our planning and operational management in forward areas. Finally, logistics activities must not only support our warfighting efforts, but also support the activities to stabilize the security, health, and economic activities of host country nationals in the areas where we deploy.

Supporting Current Operations

Since we testified here last year, we have continued to fully support the dynamically changing requirements of our deployed US forces. In January through May of this year we have moved almost 80,000 troops and over 280,000 short tons of materiel to Iraq and Afghanistan and processed approximately 6,000 requisitions each day to Army and Marines in direct support of troops in Iraq and Afghanistan. At the same time, we continually assessed and restructured our intra-theater support structure to better support our warfighters in the Central Command Area of Operations. We are also fielding new equipping programs such as the Mine Resistant Ambush Protected (MRAP) vehicle and flame retardant clothing -- all while continuing our logistics transformation efforts.

In assessing our performance, a primary metric of the supply chain is customer wait time, i.e., how long does it take from the time the customer orders an item until he or she receives the item. This is a key factor in the performance of the logistics system. Last year we reported that we had seen a 33% decrease in customer wait time across the DoD from FY 2004 through April 2006, from an average of 24 days to 16 days. Since then, we have seen another 6% decrease; to as low as 15 days. In the past year we have decreased customer wait time for Army units in the US Central Command by 12% from 18 days to 16 days. We expect to see further progress in this number as the initiatives we are pursuing are implemented. In some cases, forward units don't wait at all for key commodities. Food, water, clothing and medical supplies are stocked forward and delivered by both Prime Vendors and military assets as soon as they are requested. Additionally, we are tailoring our metrics around our support to the warfighter through established time definite delivery standards. USTRANSCOM has established over 40 specific distribution lanes for which it measures its support to various areas within the Combatant Commands. USTRANSCOM briefs each of the geographic Combatants Commands regularly on its performance, as well as changes it is making to meet current and future challenges. We continue to see success through the implementation of our logistics transformation initiatives, including those identified as part of the Supply Chain Management High Risk Improvement Plan.

As the DoD continues to operate at an increased operational tempo due to the Global War on Terrorism, it is important to provide immediate decisions for critical time sensitive issues directly affecting the support of the war effort. To facilitate a rapid decision process, we have established the Office of the Secretary of Defense (OSD) Materiel Readiness Committee. This committee provides a single point of entry into the Department for the Combatant Commands and Services, to address critical war-related materiel readiness issues requiring senior level response or approval.

The objectives of this committee include effective support of changing logistics requirements supporting the warfighter, efficient and effective RESET on forces (including issues related to transportation, acquisition, procurement, and maintenance activities), acceleration of readiness and cost-effectiveness, and proper stewardship of resources.

Specifically, the committee addresses issues that require a change or waiver to DoD policy, of obtaining or invoking emergency authorities already available at the Department or executive level, concerning legislative authorities, or requiring Administration or Congressional approval.

Logistics Transformation Across the DoD

The Department continues to drive significant changes to the way we perform across the full spectrum of our logistics activities, including supply chain, from our initial procurement of materiel and weapons systems, through our storage and distribution activities, to the warfighting customer's processes.

The Supply Chain Management High Risk Improvement Plan, developed in conjunction with GAO and OMB, contains initiatives designed to address specific focus areas, but I believe it is beneficial to view those initiatives in the context of the full gamut of logistics processes changes that we are leading. Collectively, these initiatives will significantly enhance our ability to meet our warfighters needs. It is important to recognize that we are transforming areas outside of the GAO's focus areas of asset visibility, forecasting, and distribution. Three major efforts are underway, which I will address in some detail, each of which includes specific programs to strengthen the effectiveness of our joint logistics and sustainment performance:

- integrating life cycle management principles into acquisition and sustainment programs;
- continuing implementation of Supply Chain Operations improvement programs to achieve joint logistics effectiveness;
- developing the concept of Joint Logistics Portfolio Governance as a mission for equipping and sustaining their forces.

In each area, the focus is on institutionalizing the improvements being put in place to transcend the changes in leadership.

Integration of Life Cycle Management in Acquisition

One of our key strategic goals is to ensure that Life Cycle Management (LCM) principles are effectively factored into the design of weapons platforms early in the acquisition process. This is critical to equipment reliability and to long term, cost-effective support of the system. Early focus on LCM principles significantly impacts the supply chain support needed to keep a weapons system operable. We recognize that integrating reliability and sustainability factors into acquisition, we can provide better life cycle reliability and materiel readiness outcomes for our increasingly complex weapons systems and equipment. To that end, we have established a Materiel Availability Key Performance Parameter (KPP) and two Key Systems Attributes (KSA) – Materiel Reliability and Ownership Costs – that all future acquisition programs must meet as part of the review of programs from Milestone A forward.

We are now incorporating oversight of actual equipment achievement of these requirements not only through the acquisition process, but throughout its life cycle, using an expanded Defense Acquisition Execution System (DAES) tracking system that incorporates the KPP and KSA metrics. These new acquisition program elements will ensure that Life Cycle support costs of new weapon systems are taken into account during the design phase of the acquisition cycle – lowering long term costs while achieving greater materiel readiness. Over time, it will decrease the amount of materiel we need to hold and move to support our weapons systems in the field.

Other key management oversight documents will also incorporate these LCM principles, expanding the Acquisition Program Baseline to become a Life Cycle Program

Baseline and the Acquisition Strategy document to include a Life Cycle Strategic Plan. This shift in focus from Acquisition to Life Cycle Management provides focus on the alignment of resources to achieve the reliability and materiel readiness standards established for the programs launch.

Initiatives Across Supply Chain Operations

As we have stated, we have a number initiatives addressing issues at different points across the end-to-end supply chain. These include initiatives focused on distribution under the leadership of our Distribution Process Owner, asset visibility across the spectrum, and on our inventory management and supply and storage activities, being implemented as part of the Base Realignment and Closure efforts.

Distribution Process Owner

The designation of a Distribution Process Owner (DPO) has been a critical step towards implementing a governance structure that moves the DoD to a capabilities-based enterprise. USTRANSCOM is the DoD Distribution Process Owner (DPO), as originally designated in 2003 and redesignated in 2006. Subsequent to the redesignation, the DPO role was codified in the 2006 Unified Command Plan. DoD has also formally institutionalized the DPO construct, responsibilities, and relationships in two DoD issuances – a DoD Directive and a DoD Instruction. These issuances codify USTRANSCOM's collaborative role to oversee the overall effectiveness, efficiency, and alignment of DoD-wide distribution activities on behalf of the Department. USTRANSCOM, as the DPO, leads a collaborative effort with the Joint Deployment and

Distribution Enterprise (JDDE) partners across the defense logistics community to increase the precision, reliability and efficiency of the DoD supply chain. Gen Schwartz accompanies me today to highlight the benefits the DoD has gained though our designation of USTRANSCOM as the DPO.

Since assignment as the Distribution Process Owner for DoD, USTRANSCOM has forged the Joint Deployment and Distribution Enterprise, establishing collaborative partnerships with key members of the joint community. Through these partnerships, USTRANSCOM, has influenced distribution processes and resources to reduce Service costs and improve distribution support to the warfighter.

USTRANSCOM's role as the DPO has placed increased strategic urgency and expanded requirements on the data currently available in the joint distribution pipeline. To fulfill the increased needs of the command and the DoD national partners within the Joint Deployment and Distribution Enterprise, USTRANSCOM is collaborating with the Defense Logistics Agency (DLA) to converge the Global Transportation Network's transportation and asset visibility capabilities with DLA's Integrated Data Environment. This will create a more complete, accurate, and robust common operating picture of distribution information. In fiscal year 2006, DLA and USTRANSCOM established a program office to lead this effort. The successful convergence of these programs will give combatant commands, the Services, DoD, federal agencies, and ultimately the warfighter, a cohesive solution to aggregate, manage, and glean trusted supply chain, distribution, and logistics information.

In 2006, USTRANSCOM also fielded the Joint Task Force (JTF) – Port Opening, providing a joint expeditionary capability to rapidly establish and initially operate an aerial port of debarkation and distribution node, facilitating port throughput in support of combatant commander-executed contingencies. This expeditionary force addresses historical distribution gaps and shortfalls, including ad hoc command and control, minimal airfield and distribution assessment, limited ability for rapid port clearance, limited in-transit visibility, and minimal movement control over distribution operations. Moreover, DLA developed the first deployable distribution center for employment in COCOM areas of operations to complement the joint operational architecture established with Joint Task Force—Port Opening.

Transforming DoD distribution, with its tremendously complex and fluid requirements, requires thorough analysis using world-class modeling and simulation capability. The Joint Distribution Process Analysis Center at USTRANSCOM will provide this capability. The primary role will be to enhance the effectiveness and efficiency of the distribution process by providing a forum in which USTRANSCOM and its partners can work together on common concerns. Personnel from USTRANSCOM, Air Mobility Command (AMC), and Military Surface Deployment and Distribution Command's (SDDC) Transportation Engineering Agency comprise the Joint Distribution Process Analysis Center. Early efforts are focused on integrating individual capabilities into a synergized, consolidated operation. When it has reached full operational potential, it will function as the major focal point for analyzing, modeling, understanding, and resolving complex logistics issues through application of state-of-the art research, analysis, decision support tools, and best practices to distribution, deployment, and sustainment operations.

Transforming transportation and distribution is also a continual process, not just an end-state. USTRANSCOM is committed to improved warfighter support while leveraging best business practices to achieve all appropriate savings. Since designation as DPO, USTRANSCOM and its partners have achieved more than $1 billion in cost avoidance and savings. These savings are a direct result of leveraging those key collaborative relationships I spoke of before to accomplish things like enhanced forward positioning of material at the DLA Defense Distribution Center in Kuwait; and moving Armored Security Vehicles for the Army using scheduled ocean liner service instead of air transport. Perhaps the best example of the power of this collaboration is aligning distribution support to synchronize the entire process of production, shipment and installation of FRAG 5 armor plating for USCENTCOM vehicles, thus utilizing less costly surface transportation rather than solely air transportation. This effort alone avoided $18.9 million in costs from October 2006 through February 2007.

Joint Deployment and Distribution Operations Center (JDDOC)

The Joint Deployment Distribution Operations Center (JDDOC) construct within the Geographic Combatant Commands is a major step forward in improving integration of strategic and theater distribution, with tangible improvements to DoD as a whole. The JDDOC is a Combatant Command organization augmented with USTRANSCOM, DLA, and Service personnel. The objective is to link and synchronize strategic and tactical movement of personnel, equipment and sustainment. USTRANSCOM published a

JDDOC "template" as a baseline for the Geographic Combatant Commanders, each of which has established a permanent JDDOC tailored to their region and assigned missions. Additionally, USTRANSCOM continues to mature this toolset by working with the Combatant Commanders and the National Partners to develop JDDOC metrics, build forward-deployable JDDOC capabilities, and enhance each JDDOC's ability to support broader theater logistics issues.

The benefits of establishing these capabilities have been seen in repeated operations around the world. The United States Southern Command DDOC improved distribution processes and visibility into Port au Prince in support of the 2004 Haiti Operation SECURE TOMORROW. The Pacific Command DDOC synchronized the massive influx of humanitarian aid into the tsunami-devastated parts of South Asia. And when Hurricane Katrina devastated the Gulf Coast, the Northern Command DDOC served as the deployment and distribution arm of Joint Task Force-Katrina, overseeing food and ice distribution, writing contracts to acquire support from cruise ships, and securing hospital ship support. The European Command DDOC converted numerous airlift requirements to surface movements, freeing air assets for Central Command, and deployed a forward element that synchronized the non-combatant evacuation of Lebanon in 2006. Finally, the collective efforts of these JDDOCs has produced significant savings and cost avoidance.

Defense Transportation Coordination Initiative (DTCI)

DTCI is an effort to increase the effectiveness and efficiency of the DoD Continental United States (CONUS) freight movements. USTRANSCOM, in partnership with the Defense Logistics Agency (DLA) and the Military Services, has initiated a program to select a transportation services coordinator to manage those shipments, with full visibility of freight movements, allowing load consolidation, cost efficiencies, and scheduling improvements. We expect more efficient, reliable movements, increased customer confidence, and reduced costs. The GAO recently concluded both an audit and investigation of various aspects of DTCI and both were adjudicated in DTCI's favor, endorsing DTCI as appropriate for DoD's needs. DTCI has taken past lessons learned into account, has adequately addressed small business concerns and it facilitates the use of commercial best practices within the DoD. Initial contract award is planned for August 2007 with shipping operations beginning as early as December 2007. We look forward with great anticipation to the positive changes DTCI will have on DoD transportation.

Radio Frequency Identification (RFID)

One of the key initiatives DoD is implementing to overcome the asset visibility high risk focus area is the use of radio frequency identification technology, or RFID. Because of the importance of this program, the Under Secretary of Defense for Acquisition, Technology and Logistics designated USTRANSCOM to be the Department's functional proponent for Radio Frequency Identification (RFID) and related Automated Identification Technology (AIT) implementation. As part of that designation, USTRANSCOM recently completed an overarching AIT Concept of Operations and is now working on the implementation plan to drive implementation across the DoD enterprise.

The Department's application of active RFID tags to large consolidated DoD shipments being made to Iraq and Afghanistan has already improved asset visibility for our warfighters. With more than 400 read and write stations in the region, the active tags are generating more than 83,000 position reports a week – an unprecedented level of asset visibility.

The Department continues its implementation of passive RFID technology – the same technology being implemented by Proctor & Gamble, Wal*Mart, Cardinal Health and other major corporations. Passive tags applied by our suppliers to materiel coming into the DoD supply chain are improving the efficiency of our receiving processes. In fact, one of the biggest accomplishments in the Department's RFID program occurred in October 2006 when the Department completed the installation of passive RFID infrastructure at all CONUS DLA Distribution Centers. Additionally, USTRANSCOM, specifically AMC, is projected to complete the installation of passive RFID portals at five CONUS aerial ports by September 2007.

USTRANSCOM and DLA, working with the Military Services, have within the last month, implemented our first end-to end passive lane, providing visibility using this technology across key nodes to end users in Alaska. The Department is using the DoD Alaska RFID Implementation (ARI) Project to test and evaluate passive RFID within a DoD Supply Chain by integrating passive RFID readers, RFID edge ware/middleware, message translators, and system connectivity with existing DoD logistics data architectures. The material with passive tags will flow from Defense Distribution Center in San Joaquin, California, through the AMC Aerial Ports at Travis AFB, California and

Elmendorf AFB, Alaska to supply activities at Elmendorf AFB and Ft. Richardson, AK. This evaluation is being conducted April 2007 through July 2007.

Passive RFID is also generating efficiencies at customer sites. At the Navy's Trident Refit Facility in Bangor, Washington, the Navy has realized a two-thirds reduction in receipt to stow processing time and additional efficiencies at this small site which is a microcosm of future benefits.

Base Realignment and Closure (BRAC) Supply and Storage Transformation

Implementation of the approved Base Realignment and Closure (BRAC) Supply and Storage recommendations will significantly transform our supply chain performance. These recommendations change the support for our industrial activities by more closely linking DLA, the provider of the majority of needed materiel, and our critical maintenance depot activities. The 2005 BRAC designated the DLA as the primary operator for achieving economies and efficiencies that enhance the effectiveness of logistics support to forces as they transition to more joint and expeditionary operations.

DLA's mission is to function as an integral element of the military logistics system of the Department of Defense. DLA provides effective and efficient worldwide logistics support to the Military Departments and the Combatant Commands under conditions of peace and war, as well as support to other DoD Components and Federal agencies. DLA is responsible for the procurement, management, storage and distribution of some five million items that it manages. DLA provides food, fuel, and medical items, as well as most of the clothing, construction materials and spare parts for worldwide support of this country's land, sea and airborne platforms and weapons systems and the forces that operate and sustain them. The number one priority for DLA is logistics support to the American warfighter.

The BRAC recommendations also give DLA the responsibility for procuring our critical reparable components, allowing the DoD to better leverage its buying power and manage commodities in a more comprehensive manner. Finally, the recommendations task DLA with the privatization of the management of certain commercially available commodities, such as tires and compressed gases – allowing the Department to use existing commercial sector capabilities to enhance support to the Department. These efforts, once completed, will better link supply and demand, and enhance joint support to the warfighter while reducing overall costs to the Department. LTG Robert Dail is with me today to provide details about the implementation of the BRAC Supply, Storage, and Distribution.

Joint Regional Inventory Materiel Management (JRIMM)

The BRAC Supply, Storage, and Distribution Management Reconfiguration recommendation incorporates the principles of Joint Regional Inventory Materiel Management (JRIMM) by creating four CONUS support regions, with each having one Strategic Distribution Platform (SDP) and multiple Forward Distribution Points (FDP). This realignment provides dedicated receiving, storing, and issuing functions, solely in support of on-base Military Service industrial customers such as maintenance depots, shipyards, and air logistics centers.

The JRIMM program is built on three fundamental principles: minimizing storage sites within a region, eliminating duplicate inventory, and maximizing service to operational and industrial sites. Applying these principles will serve to create a smoother materiel flow for all of the Components within a region in order to achieve inventory investment savings for the Department. In addition, customer wait time for the Services will be reduced as DLA leverages its distribution network to support timely deliveries using a concept of operations that maximizes surface transportation as long as it meets customer requirements. JRIMM pathfinders have proved successful, and in March 2007 OSD designated DLA to implement JRIMM worldwide.

DLA will activate the Warner-Robins Air Logistics Center (ALC) SDP, October 2007. This effort reconfigures DoD's wholesale storage and distribution infrastructure to improve support to our Service customer, whether home-based or deployed. The combined effect is an enhanced ability to synchronize delivery of material with our supply chain partners, reduce customer wait time, and simplify the delivery system. DLA will also establish the first Joint Regional hub on the island of Oahu in Hawaii to serve all four military Service components in the first quarter of FY 2008.

Joint Logistics Portfolio Capability Management

The Joint Logistics Portfolio Capability Management (JL CPM) test is an implementation element of the 2006 Quadrennial Defense Review (QDR). QDR directed test cases of capability portfolios. The Defense Logistics Executive, USD(AT&L), is coordinating the Joint Logistics Capability Portfolio Pilot Test.

Portfolio management balances capabilities within a portfolio to provide the most cost-effective mix to deliver desired effects and meet objectives. The intent of portfolio management is to manage groups of selected capabilities across the enterprise to improve interoperability, minimize capability redundancies and gaps, and maximize capability effectiveness. Joint capability portfolios will enable the Department to shift to an output–focused model that enables progress to be measured from strategy to outcomes. At this level, portfolio managers can determine the best mix of available assets to achievewithin a required outcome.

There are several important aspects of this change. By looking at collections of assets across the military services which can be leveraged to meet joint needs, we expect to better coordinate individual Service investments to meet broader joint war fighter needs. Additionally, we expect to gain efficiencies within the logistics portfolio by introducing commonality, sharing technologies, and adapting existing capabilities and identifying portfolio life cycle cost drivers. Specifically the joint logistics portfolio test will address governance in a way that facilitates integrated decision-making within Supply Chain Operations, Operational Engineering, Operational Contracting, and Logistics Services. This portfolio test will allow senior leadership to consider ways of conducting strategic capability and resource trades across previously stove-piped areas, and also better understand the implications of investment decisions across competing priorities. Roles and authorities invested across the governance structure will be clearer and more transparent. The governance structure strengthens the focus on supporting the warfighter. Governance must be structured in a way that allows leaders to make good decisions quickly based on current, reliable information.

The goal of the Joint Logistics Capability Portfolio Management test is to assess if the management concept will facilitate coordination of capabilities supporting the joint warfighter in an effective, efficient and timely manner. It will build on the successes and lessons learned from the Distribution Process Owner designation, and utilize the existing structures within the DoD logistics community. The results of the test along with operational support lessons learned and the initiatives contained in our Supply Chain Management High Risk Improvement Plan will then be incorporated in the comprehensive logistics strategic plan, called the logistics roadmap.

The Logistics Roadmap

The Logistics Roadmap will be a living document with a detailed depiction, over time, of existing, planned and desired capabilities to effectively project and sustain the joint force. It will establish a coherent framework for achieving the best and most cost-effective joint logistics outcomes to support America's war fighters.

Development of the Logistics Roadmap will resume upon completion of the Joint Logistics Capability Portfolio Management test. It will be developed in collaboration with the Joint Staff, Services, USTRANSCOM, DLA, and JFCOM.

The Logistics Roadmap will be submitted to the Defense Logistics Executive for approval. Anticipated completion date is Summer 2008.

Supply Chain Management as a High Risk Area

Based on the significant progress made and the commitment of leadership to institutionalize this progress, in December 2006 the USD(AT&L)requested that GAO remove Supply Chain Management as a high risk area. GAO declined stating that key determinants to removal of a high risk area include:

- Demonstrated strong commitment to and top leadership support for addressing problems
- The capacity to do so
- A corrective action plan that provides for substantially completing major corrective measures in the near term
- A program to monitor and independently validate the effectiveness of corrective measures
- Demonstrated progress in implementing corrective measures

Based on our progress to date, we believe the DoD has met these key determinants. The DoD has demonstrated and continues to demonstrate strong commitment to and top leadership support for addressing problems. The institutionalization of key initiatives across our complex supply chain structure is testament that we have the will and capacity to address these problems. We continue to measure our performance and drive improvements, such as reduced customer wait time, while supporting GWOT.

Closing

In closing, I would like to again thank you for to the opportunity to explain the DoD's strategy to achieve continuing improvements in logistics and supply chain management and to institutionalize these improvements to transcend leadership changes. Improvements are being institutionalized through a governance structure that enables leaders to make actionable decisions that provide effective and efficient support to the warfighter in a manner that is in the best interest of the American taxpayer. We are dedicated to this transformation and are not just documenting a future vision but are implementing that vision today. We will continue to improve the cost-effectiveness of DoD logistics operations as a matter of on-going DoD leadership responsibility.

United States Government Accountability Office

GAO

Testimony

Before the Subcommittee on Oversight of Government Management, the Federal Workforce, and the District of Columbia, Committee on Homeland Security and Governmental Affairs, U.S. Senate

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DOD'S HIGH-RISK AREAS

Efforts to Improve Supply Chain Can Be Enhanced by Linkage to Outcomes, Progress in Transforming Business Operations, and Reexamination of Logistics Governance and Strategy

Statement of William M. Solis, Director
Defense Capabilities Management

GAO
Accountability * Integrity * Reliability

G A O

Highlights

[illegible]

Why GAO Did This Study

[illegible]

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July 10, 2007

DOD'S HIGH-RISK AREAS

Efforts to Improve Supply Chain Can Be Enhanced by Linkage to Outcomes, Progress in Transforming Business Operations, and Reexamination of Logistics Governance and Strategy

What GAO Found

The most recent update to DOD's plan shows that DOD has made progress developing and implementing its supply chain management improvement initiatives. DOD is generally staying on track for implementing its initiatives, although there have been delays in meeting certain milestones. However, the long-term time frames for many of these initiatives present challenges to the department in sustaining progress toward substantially completing their implementation. The plan also lacks outcome-focused performance measures for many individual initiatives and the three focus areas, limiting DOD's ability to fully demonstrate the results achieved through its plan. Increasing DOD's focus on outcomes will enable stakeholders to track the interim and long-term success of its initiatives and help DOD determine if it is meeting its goals of more effective and efficient supply chain management.

GAO's recent work has identified problems related to the three focus areas in DOD's plan. In the requirements area, the military services are experiencing difficulties estimating acquisition lead times to acquire spare parts for equipment and weapon systems, hindering their ability to efficiently and effectively maintain spare parts inventories for military equipment. Challenges in the asset visibility area include lack of interoperability among information technology systems, problems with container management, and inconsistent application of radio frequency identification technology, which make it difficult to obtain timely and accurate information on assets in theater. In the materiel distribution area, challenges remain in coordinating and consolidating distribution and supply support within a theater.

Improving defense business operations is integral to resolving supply chain management problems. Progress in DOD's overall approach to business transformation is needed to confront problems in other high-risk areas, including supply chain management. Because of the complexity of business transformation, GAO has stated that DOD needs a Chief Management Officer with significant authority, experience, and a term that would provide sustained leadership and the time to integrate DOD's overall business transformation efforts. GAO's work, pending legislation, and other recent studies indicate a consensus that the status quo is no longer acceptable.

GAO's recent review of joint theater logistics raises concerns about whether DOD can effectively implement this initiative without reexamining fundamental aspects of the department's logistics governance and strategy. In this respect, joint theater logistics may serve as a microcosm of some of the challenges DOD faces in resolving supply chain management problems. Moreover, GAO recommended in that report that DOD align its approach to joint theater logistics with ongoing actions the department is taking to reform its logistics governance and develop its logistics strategy. Several recent studies of DOD logistics systems have recommended changes to DOD's organizational structure for providing joint logistics and supply support to military operations.

Mr. Chairman and Members of the Subcommittee:

I am pleased to be here today to discuss the progress made by the Department of Defense (DOD) toward resolving long-standing problems with supply chain management. The availability of spare parts and other critical items that are procured and delivered through DOD's supply chain network affects the readiness and capabilities of U.S. military forces, and can affect the success of a mission. In addition, the investment of resources in DOD's supply chains is substantial, amounting to more than $150 billion a year according to DOD, and supply inventory levels have grown by 35 percent from $63.3 billion in fiscal year 2001 to $85.6 billion in fiscal year 2006.[1] DOD also invests billions in information technology systems that support supply chain management and other business operations. Over time, DOD has sought to better integrate its supply chain operations to effectively support military forces and to make its supply chains more efficient from source of supply to point of consumption. However, the challenges to successfully improving management of DOD's vast and complex supply chain network are formidable, and problems with supply chain management have yet to be fully resolved. Today's hearing is the third time since 2005 that we have testified before this Subcommittee on supply chain management.[2] Your active involvement has been and will continue to be vital to keeping attention focused on this important aspect of DOD's business and logistics support operations.

GAO's audits and evaluations have identified a number of federal programs and operations that are high risk because of their greater vulnerabilities to fraud, waste, abuse, and mismanagement. In recent years, GAO's high-risk program has increasingly focused on those major programs and operations that need urgent attention and transformation in order to ensure that our government functions in the most economical, efficient, and effective manner possible. We first designated DOD inventory management as a high-risk area in 1990 because of ineffective and inefficient inventory systems and practices. The problems we found—based on a large body of work on the management of military supplies—

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[1] Part of this growth was caused by inflation. The inflation rate over this period as measured by the Gross Domestic Product Price Index was a little over 13 percent.

[2] GAO, *DOD's High-Risk Areas: High-Level Commitment and Oversight Needed for DOD Supply Chain Plan to Succeed*, GAO-06-113T (Washington, D.C.: Oct. 6, 2005); and *DOD's High-Risk Areas: Challenges Remain to Achieving and Demonstrating Progress in Supply Chain Management*, GAO-06-983T (Washington, D.C.: July 25, 2006).

included on-hand inventory that was not needed to meet required inventory levels, inadequate controls over items, and cost overruns. We have reported on efforts to address this and other high-risk areas in our biennial updates to our high-risk programs since then. In preparing the 2005 update of the high-risk series, we determined that systemic supply problems extended beyond inventory management to other aspects of the supply chain, including inaccurate supply forecasts, poor asset visibility, and ineffective distribution. We therefore expanded our high-risk designation to include the entirety of "DOD supply chain management."

Over the years DOD has taken actions toward its goal of integrating and improving supply chain management. For example, it has revised policies and practices aimed at addressing shortcomings identified during Operation Iraqi Freedom. It has implemented recommendations made by our office and other audit organizations regarding specific aspects of its supply chain operations. It has also identified technologies and commercial best practices that could lead to substantial improvements over the long term. Another step has been the development of DOD's supply chain management improvement plan. In 2005, with the encouragement of the Office of Management and Budget (OMB) and input from our office, DOD developed this plan with the intent of addressing the problems that have prompted us to retain this high-risk designation. (We subsequently refer to this document as the plan.) DOD's plan lists 10 initiatives aimed at making improvements in three focus areas of supply chain management—requirements forecasting, asset visibility, and materiel distribution.

DOD officials believe the commitment they have demonstrated to resolving supply chain management problems, including developing the plan and making progress implementing initiatives, justifies removing this area from our high-risk list. In December 2006, the Under Secretary formally requested that we consider removing supply chain management from our list of high-risk areas. We decided that notwithstanding positive steps taken by DOD to address problems, supply chain management should remain a high-risk area until DOD can successfully demonstrate improvements in requirements forecasting, asset visibility, and materiel distribution, and we retained this designation in the 2007 biennial update of our high-risk series.[3]

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[3] GAO, *High-Risk Series: An Update,* GAO-07-310 (Washington, D.C.: January 2007).

Today, I would like to provide our perspectives on (1) DOD's progress in developing and implementing the initiatives in its plan, (2) the results of our recent work relating to the three focus areas covered by the plan, and (3) the integration of supply chain management with efforts to transform and improve defense business operations. Finally, I will address broader issues of logistics governance and strategic planning within DOD. My statement is based on previous GAO reports and analysis, including a report we are releasing today on DOD's efforts to develop and implement joint theater logistics,[4] one of the initiatives in the plan. In addition, we have met regularly with DOD and OMB staff to obtain updates on DOD's plan and information on the specific initiatives. We conducted our work in accordance with generally accepted government auditing standards.

Summary

The most recent update to the plan shows that DOD has made progress developing and implementing its supply chain management improvement initiatives, but the current performance measures in the plan do not fully demonstrate results. DOD is generally staying on track for implementing its initiatives, although there have been delays in meeting certain milestones. Notwithstanding this overall progress and the commitment of DOD leadership to resolving supply chain problems, the long-term time frames for many of these initiatives present challenges to the department in sustaining progress toward substantially completing their implementation. Moreover, the plan lacks outcome-focused performance measures that could gauge the results of many of the individual improvement initiatives or demonstrate progress in the three focus areas, limiting DOD's ability to fully demonstrate the results achieved through its plan. Increasing the plan's focus on measurable outcomes will enable DOD's internal and external stakeholders, including Congress and OMB, to track the interim and long-term success of DOD's initiatives and help DOD determine if it is meeting its goals of achieving more effective and efficient supply chain management.

In addition, our recent work has identified continuing problems related to the three focus areas in DOD's plan.

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[4] GAO, *Defense Logistics: Efforts to Improve Distribution and Supply Support for Joint Military Operations Could Benefit from a Coordinated Management Approach*, GAO-07-807 (Washington, D.C.: June 29, 2007).

- In the area of requirements forecasting, the military services are experiencing difficulties estimating the length of time between the initiation of a procurement action and the receipt of spare parts into the supply system for equipment and weapon systems. We also found continuing problems in the Air Force's inventory management practices, hindering its ability to efficiently and effectively maintain its spare parts inventory for military equipment. Specifically, an average of 52 percent ($1.3 billion) of the Air Force's secondary on-order inventory was not needed to support on-order requirements. Further, about 65 percent ($18.7 billion) of on-hand inventory was not needed to support required inventory levels. We calculated that it costs the Air Force from $15 million to $30 million annually to store its unneeded items. Problems also continue in managing prepositioned stocks.
- Our work in the area of asset visibility has indicated numerous challenges, from lack of interoperability among information technology systems to problems with container management. Limitations in asset visibility capabilities make it difficult to obtain timely and accurate information on the assets that are present in the theater of operations.
- With respect to materiel distribution, we have found that challenges remain in coordinating and consolidating distribution and supply support within a theater. For example, DOD is establishing separate organizations to coordinate surface transportation and lacks a single organization with authority to integrate and synchronize surface deployment and distribution movements. One key challenge has been establishing an effective mechanism that would enable a joint force commander to exercise appropriate command and control over transportation and other logistics assets in the theater.

Further, transforming and improving defense business operations are integral to resolving supply chain management problems. As we have previously stated, progress in DOD's overall approach to business transformation is needed to confront problems in other high-risk areas, including supply chain management. Because of the complexity and long-term nature of business transformation, we have stated that DOD needs a Chief Management Officer with significant authority, experience, and a term that would provide sustained leadership and the time to integrate DOD's overall business transformation efforts. Our work, pending legislation, and other recent studies indicate a consensus that the status quo is no longer acceptable. In addition to business transformation, we have identified two other DOD high-risk areas that are closely linked with supply chain management—modernizing business systems and improving financial management.

Our recent review of joint theater logistics raises concerns about whether DOD can effectively implement this initiative without reexamining fundamental aspects of the department's logistics governance and strategy. In this respect, joint theater logistics may serve as a microcosm of some of the challenges DOD faces in resolving supply chain management problems. We found during our review that DOD has not developed a coordinated and comprehensive management approach to guide and oversee implementation of joint theater logistics across the department. Moreover, we recommended in that report that DOD align its approach to joint theater logistics with ongoing actions the department is taking to reform its logistics governance and develop its logistics strategy. Regarding logistics governance, DOD has been testing a new approach to managing joint capabilities as a portfolio, but key decisions are still to be made on how to implement this approach. In addition, DOD has plans to develop an overarching logistics strategy but has delayed completion of this strategy until sometime next year. The diffused organization of DOD's logistics operations, including separate funding and management of resources and systems, complicates DOD's ability to adopt a coordinated and comprehensive approach. Several recent studies of DOD's logistics system have recommended changes to DOD's organizational structure for providing joint logistics and supply support to military operations.

Background

DOD relies on a number of individual processes and activities, known collectively as supply chain management, to purchase, produce, and deliver items and services to military forces. The department relies on working capital (revolving) funds maintained by the defense and service logistics agencies to finance the flow of these items to the forces. Working capital funds allow these agencies to purchase needed items from suppliers. Military units then order items from the logistics agencies and pay for them with annually appropriated operations and maintenance funds when the requested items—either from inventory or manufacturers—are delivered to the units.

The Under Secretary of Defense (Acquisition, Technology, and Logistics) has been designated by the Secretary of Defense as the department's Defense Logistics Executive, with authority to address logistics and supply chain issues. Officials within the Office of the Assistant Deputy Under Secretary of Defense for Supply Chain Integration completed the first iteration of the plan in July 2005 and have updated it several times since then based on information provided by designated lead proponents for the individual initiatives. DOD has shared its plan externally with Congress, OMB, and our office. OMB has characterized the plan as a model for other federal agencies to use in developing their own plans to address their high-risk areas.

The plan has three focus areas: requirements forecasting, asset visibility, and materiel distribution—issues that we have identified based on GAO audits since 1995 as critical to improving DOD supply chain management. Accurately forecasted supply requirements are a key first step in buying, storing, positioning, and shipping items that the warfighter needs. DOD describes asset visibility as the ability to provide timely and accurate information on the location, quantity, condition, movement, and status of supplies and the ability to act on this information. Distribution is the process for synchronizing all elements of the logistics system to deliver the "right things" to the "right place" at the "right time" to support the warfighter. Our prior work has identified problems in these three focus areas, as well as other aspects of supply chain management.

DOD's plan identifies joint theater logistics as an initiative that will improve both asset visibility and materiel distribution. Joint theater logistics is intended to enhance the ability of a joint force commander to direct various logistics functions, including distribution and supply support activities, across the theater and, for several years, has been part of DOD's planned transformation of logistics capabilities. Joint theater logistics is one of seven future logistics capabilities that DOD has grouped under "focused logistics." DOD has broadly defined joint theater logistics as an adaptive ability to anticipate and respond to emerging theater logistics and support requirements.

In general, when legislative and agency actions result in significant and sustainable progress toward resolving a high-risk problem, we remove the high-risk designation. Key determinants include a demonstrated strong commitment to and top leadership support for addressing problems, the capacity to do so, a corrective action plan, and demonstrated progress in implementing corrective measures.[5] From 1990 through 2007, we removed 18 areas from the high-risk list. Our decisions on removing supply chain management from the high-risk list will be guided by whether DOD (1) sustains top leadership commitment and long-term institutional support for the plan; (2) obtains necessary resource commitments from the military services, the Defense Logistics Agency, and other organizations; (3) makes substantial progress implementing improvement initiatives across the department; (4) establishes a program to demonstrate progress and validate the effectiveness of the initiatives; and (5) completes the development of a comprehensive, integrated strategy for guiding supply chain management improvement efforts across the department.

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[5] The criteria for removing a high-risk designation are contained in GAO, *Determining Performance and Accountability Challenges and High Risks*, GAO-01-159SP (Washington, D.C.: November 2000).

DOD Has Made Progress in Developing and Implementing the Initiatives in Its Plan, but Current Performance Measures Do Not Fully Demonstrate Results

The most recent update to the plan in May 2007 shows that DOD, over the past year, has made progress in developing and implementing its improvement initiatives. We noted this progress in the January 2007 update of our high-risk series. Specific examples of progress made include the following:

- DOD has established joint deployment distribution operations centers in each geographic combatant command. In early 2004, DOD established the first of these operations centers in Kuwait, under U.S. Central Command, after distribution problems arose during the initial stages of Operation Iraqi Freedom. DOD has since expanded this organization to its other geographic combatant commands. These operations centers can help joint force commanders synchronize the arrival of supplies into a theater and assist in other aspects of distribution and supply support. They are designed to incorporate representatives from DOD components, such as U.S. Transportation Command, the Defense Logistics Agency, and the military services, who can provide a knowledgeable connection to logistics supply centers in the United States and facilitate the distribution of supplies to the theater. The expansion of these operations centers to all the geographic commands was based on the success of the first operations center in Kuwait, which has been credited with improving the management of supplies moving across the distribution system and achieving cost savings.[6]

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[6] For example, U.S. Transportation Command officials said that the operations center was responsible for shifting from the use of airlift to sealift to transport supplies, which reduces costly airlift requirements and frees up airlift capacity; coordinating the movement of personnel from their point of origin to final destination rather than through intermediate locations with time-consuming layovers (a concept referred to as single ticket); and improving distribution management by facilitating the use of pure-packed pallets and containers, developing a container management plan, and improving the return of Army materiel from the theater. According to data provided by U.S. Transportation Command, the activities of this joint deployment distribution operations center resulted in total cost avoidance and savings of $343 million between fiscal years 2004 and 2007.

- DOD has reported initial success with an initiative aimed at streamlining the storage and distribution of common items for multiple military service locations through the use of Defense Logistics Agency hubs. The objectives of this initiative, called joint regional inventory and material management, include eliminating duplicate materiel handling and inventory layers. DOD has met key milestones in this initiative and recently completed the pilot program in Hawaii. U.S. Pacific Command officials stated that they had reduced redundant service-managed inventories, the number of times they handle parts, and customer wait times over the course of the pilot. They estimated that the services had reduced their inventory levels by more than $10 million. In March 2007, the Defense Logistics Agency was tasked to be the lead proponent for continued worldwide implementation of joint regional inventory and material management.
- DOD also made progress toward improving transportation management of military freight. Before the end of this fiscal year, U.S. Transportation Command plans to award a contract to a third-party logistics provider, or 3PL, to coordinate the movement of freight shipments within the continental United States. This effort, called the defense transportation coordination initiative, is aimed at improving the reliability, predictability, and efficiency of moving freight among DOD's depots, logistics centers, and field activities. In a recent report on this initiative,[7] we stated that DOD had taken numerous actions to incorporate the lessons learned from a prior prototype program and, moreover, had taken positive steps to adopt best practices employed by other public and private organizations to transform their culture. Still, the long-term success of this effort remains uncertain given the challenges in undertaking organizational transformation and because the program is still in its early stages.

Despite the progress indicated by the development and implementation of these initiatives, the recent update of DOD's plan indicates some delays in achieving certain milestones. For example, the radio frequency identification (RFID)[8] initiative experienced a slippage from December 2006 to September 2007 in its milestone to implement passive RFID at the first 25 percent of Defense Logistics Agency's distribution centers located outside the continental United States. This milestone was adjusted based on lessons learned from the implementation of RFID at sites within the continental United States. Also, the item unique identification initiative[9] experienced a slippage of a year, from January 2007 to January 2008, for the milestone on demonstrating integration with international entities, because required ratification from the North Atlantic Treaty Organization was delayed. Schedule delays such as these may be expected given the long-standing nature of the problems being addressed, the complexities of the initiatives, and the involvement of multiple organizations. Furthermore, some of these initiatives are in the early stages of implementation, with full implementation several years away. The long-term time frames for many of these initiatives present challenges to the department in sustaining progress toward substantially completing their implementation.

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[7] GAO, *Defense Transformation: DOD Has Taken Actions to Incorporate Lessons Learned in Transforming Its Freight Distribution System*, GAO-07-675R (Washington, D.C.: May 8, 2007.)

[8] RFID consists of electronic tags that are attached to equipment and supplies being shipped from one location to another, enabling shipment tracking.

Since the last hearing before this Subcommittee in July 2006, we have not seen significant changes in how DOD proposes to measure the impact of its initiatives in its plan. The plan, as before, contains four performance metrics—backorders, customer wait time, on-time orders, and logistics response time.[10] While these four measures capture broad aspects of DOD's supply chain performance, they can be affected by variables other than the initiatives themselves. For example, natural disasters, wartime surges in requirements, or disruption in the distribution process could each result in increased backorders, longer customer wait time, fewer on-time orders, and slowed response time, regardless of DOD's initiatives. Consequently, changes in these high-level metrics might not be directly attributable to the initiatives in the plan. While it may take years before the results of programs become apparent, intermediate metrics can be used to provide information on interim results and show progress toward intended results. In addition, when program results could be influenced by external factors, intermediate metrics can be used to identify the program's discrete contribution to the specific result.

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[9] Item unique identification provides for marking of personal property items with a set of globally unique data items to help DOD value and track items throughout their life cycle.

[10] Backorders are the number of orders held in an unfilled status pending receipt of additional parts or equipment through procurement or repair. Customer wait time measures the number of days between the issuance of a customer order and satisfaction of that order. On-time orders is the percentage of orders that are on time according to DOD's established delivery standards. Logistics response time refers to the number of days to fulfill an order placed on the wholesale level of supply from the date a requisition is generated until the materiel is received by the retail supply activity.

As we noted last July, the results of DOD's initiatives would be more apparent if DOD applied more outcome-oriented performance metrics for many of the individual initiatives and for the three focus areas. Outcome-oriented performance metrics show results or outcomes related to an initiative or program in terms of effectiveness, efficiency, impact, or all of these. Since last July, DOD has not added new outcome-focused performance metrics to its plan. DOD also continues to lack cost metrics that might show efficiencies gained through these supply chain efforts, either at the initiative level or overall. In total, DOD's plan identifies a need to develop outcome-focused performance metrics for 6 initiatives, and 9 out of 10 initiatives lack cost metrics. We recommended in January that DOD develop, implement, and monitor outcome-focused performance and cost metrics for all the individual initiatives in the plan as well as for the plan's focus areas of requirements forecasting, asset visibility, and materiel distribution.[11] In response to our recommendation, DOD asserted that it had developed and implemented outcome-focused performance and cost metrics for logistics across the department, but it also acknowledged that more work needed to be done to link the outcome metrics to the initiatives in the plan as well as for the focus areas. DOD stated that these linkages will be completed as part of full implementation of each initiative.

Recent GAO Reviews Have Found That Systemic Supply Chain Management Problems Continue

Our recent work has identified continued systemic weakness in aspects of DOD's supply chain management. I will briefly highlight some of the results from these reviews, structured around the three focus areas covered by DOD's plan.

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[11] GAO, *DOD's High-Risk Areas: Progress Made Implementing Supply Chain Management, but Full Extent of Improvement Unknown*, GAO-07-234 (Washington, D.C.: Jan. 17, 2007).

Requirements Forecasting Problems Exist in Managing Spare Parts and Prepositioned Stocks

In the area of requirements forecasting, the military services are experiencing difficulties estimating acquisition lead times to acquire spare parts for equipment and weapon systems.[12] Effective processes that identify and manage acquisition lead times are of critical importance to maintaining cost-effective inventories, budgeting, and having materiel available when it is needed. In March 2007, we reported that 44 percent of the services' lead time estimates varied either earlier or later than the actual lead times by at least 90 days.[13] Overestimates and underestimates of acquisition lead time contribute to inefficient use of funds and potential shortages or excesses of spare parts. We recommended a number of actions DOD should take to improve the accuracy and strengthen the management of lead times. For example, we made specific recommendations directed toward the Army, the Air Force, the Navy, and the Defense Logistics Agency with the intent of improving their accuracy in setting acquisition lead times. DOD mostly concurred with our recommendations.

In a separate review of the Air Force's inventory management practices,[14] we found continuing problems hindering its ability to efficiently and effectively maintain its spare parts inventory for military equipment. From fiscal years 2002 through 2005, more than half of the Air Force's secondary inventory (spare parts), worth an average of $31.4 billion annually, was not needed to support required on-order and on-hand inventory levels. We found an average of 52 percent ($1.3 billion) of the Air Force's secondary on-order inventory was not needed to support on-order requirements.[15] This unneeded on-order inventory indicates that the Air Force did not cancel orders or deobligate funds for items that were not needed to support requirements. When the Air Force buys unneeded items, it is obligating funds unnecessarily, which could lead to not having sufficient funds to purchase needed items. The Air Force has continued to purchase unneeded inventory because its policies do not provide incentives—such as requiring contract termination review for all unneeded on-order inventory or reducing the funding available for the Air Force Materiel Command by an amount up to the value of the Air Force's on-order inventory that is not needed to support requirements—to reduce the amount of inventory on order that is not needed to support requirements. In addition, although the percentage of the Air Force's on-hand inventory was reduced by 2.7 percent during these years, about 65 percent ($18.7 billion) of this inventory was not needed to support required inventory levels. We calculated that it costs the Air Force from $15 million to $30 million annually to store its unneeded items. We recommended that the Air Force improve its policies regarding on-order inventory, revalidate the need to retain items that are not needed to meet inventory requirements and for which there is no recurring demand, and take other actions to improve accountability for, and management of, its secondary inventory. DOD generally concurred with our recommendations.

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[12] Acquisition lead time, also known as procurement lead time, measures the length of time between the initiation of a procurement action and the receipt of items into the supply system.

[13] GAO, *Defense Inventory: Opportunities Exist to Improve the Management of DOD's Acquisition Lead Times for Spare Parts*, GAO-07-281 (Washington, D.C.: Mar. 2, 2007).

[14] GAO, *Defense Inventory: Opportunities Exist to Save Billions by Reducing Air Force's Unneeded Spare Parts Inventory*, GAO-07-232 (Washington, D.C.: Apr. 27, 2007).

[15] Secondary inventory items include reparable components; subsystems; and assemblies other than major end items (such as aircraft), consumable repair parts, bulk items and materiel, subsistence, and expendable end items, including clothing and other personal gear. Inventory that is not in DOD's possession but for which contracts have been awarded or funds have been committed is considered to be on order.

Another area of continuing concern has been the stocks maintained in the Army's prepositioning programs. Prepositioning is one of three ways, along with airlift and sealift, that the U.S. military can deliver equipment and supplies to field combat-ready forces. The Army drew heavily from its prepositioned stocks to support Operations Iraqi Freedom and Enduring Freedom, and these sustained operations have taken a toll on the condition and readiness of military equipment. In February 2007, we reported the Army was changing its overall prepositioning strategy and, in doing so, faced major strategic and management challenges.[16] One of these challenges was that despite recent efforts to improve requirements setting, the Army had not yet determined reliable requirements for secondary items and operational project stocks.[17] Also, the Army does not systematically measure or report readiness for the secondary item and operational project programs. Without sound requirements or reporting mechanisms, the Army cannot reliably assess the impact of any shortfalls, determine the readiness of its programs, or make informed investment decisions about them. We recommended that the Army develop an implementation plan that, among other things, completes ongoing reevaluation of the secondary item and project stock requirements as well as establishes systematic readiness measurement and reporting of secondary items and operational project stock programs. DOD concurred with this recommendation.

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[16] GAO, *Defense Logistics: Improved Oversight and Increased Coordination Needed to Ensure Viability of the Army's Prepositioning Strategy*, GAO-07-144 (Washington, D.C.: Feb. 15, 2007).

[17] Operational project stocks include items not typically part of unit equipment, such as chemical defense equipment, pipeline systems, mortuary units, and bare base sets for housing soldiers in austere environments.

Effective Management of Supplies Is Hindered by Problems in Achieving Asset Visibility

Despite the benefits attributed to the joint deployment distribution operations center in Kuwait, effective management of supply distribution across the theater has been hindered by ongoing problems in achieving asset visibility. Senior military commanders in Kuwait attributed these problems to a lack of interoperability among information technology systems that makes it difficult to obtain timely, accurate information on assets in the theater.[18] We have previously reported that the defense logistics systems used by various components to order, track, and account for supplies are not well integrated and do not provide the information needed to effectively manage theater distribution and provide asset visibility.[19] Officials told us their staff must use manual work-arounds to overcome the problems caused by noninteroperable information systems and estimated that their staff spend half their time pulling data from information systems, e-mailing it around for validation or coordination, consolidating it on a spreadsheet, and then analyzing it to make management decisions. In January 2007, a joint assessment conducted by several DOD components at Camp Arifjan, Kuwait, found that separate movement control battalions in Kuwait and Iraq use both automated and handwritten transportation movement requests to track air and ground movements and must consolidate manual and automated data into spreadsheets in order to capture the total theater movement picture. Neither movement battalion has total visibility over what is occurring in both Kuwait and Iraq nor do they have total visibility of the surface transportation resources necessary to optimize the distribution of resources.

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[18] Interoperability refers to the ability of different systems to communicate effectively, including sharing information.

[19] GAO, *Defense Logistics: DOD Has Begun to Improve Supply Distribution Operations, but Further Actions Are Needed to Sustain These Efforts*, GAO-05-775 (Washington, D.C.: Aug. 11, 2005).

In our review of joint theater logistics, we also found continuing problems with container management that hinder asset visibility and impede DOD's ability to effectively manage logistics operations and costs, although improvements had been made since we last reported on this issue in 2003.[20] Some challenges that DOD faces with container management include the application of RFID on containers in the supply chain, compliance with container management processes, and the return of commercial containers to maritime carriers.

In 2004, the Under Secretary of Defense (Acquisition, Technology, and Logistics) directed the use of active RFID on all consolidated shipments moving to, from, or between overseas locations in order to provide global in-transit visibility, and U.S. Central Command has emphasized the need to use this technology to improve asset visibility in Iraq and Afghanistan. However, according to U.S Central Command officials, DOD continues to struggle with the application of RFID in the theater supply chain because of problems such as containers shipped without RFID tags or with tags that are broken, tags with incorrect information, or tags that are rewritten but not cross-referenced to the original shipping information. Noncompliance with container management processes established by U.S. Central Command can also limit asset visibility. For example, the Army's system has not been able to effectively track containers as they pass through distribution channels, significantly hampering asset visibility in theater because tagged containers can become "lost" in theater, with no one able to track the location of the container or its contents. In addition, if the container is commercially owned and not returned to the carrier within a specified time period, detention charges begin accumulating.

During our review of joint theater logistics we also found that U.S. Transportation Command and the Military Surface Deployment and Distribution Command, to improve management and accountability over containers and to address the growing detention charges, developed a theater container management process and established the container management element—a unit responsible for tracking and providing management oversight of containers in the theater. In addition, the Army decided to purchase, or "buy out," commercial containers to reduce monthly detention charges. Container management element officials told us that through a combination of container buyouts and increased oversight, detention charges decreased from approximately $10.7 million per month in December 2005 to $3.7 million per month in October 2006. However, although DOD has been able to reduce monthly detention charges on commercial containers, it is still experiencing problems with retaining visibility over containers, and its problem with commercial container detention charges is shifting from Iraq to Afghanistan.

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[20] GAO, *Defense Logistics: Preliminary Observations on the Effectiveness of Logistics Activities during Operation Iraqi Freedom*, GAO-04-305R (Washington, D.C.: Dec. 18, 2003).

In addition, the Army continues to experience problems in developing and implementing system initiatives affecting asset visibility. For example, the Logistics Management Program, one of the Army's major business system modernization efforts intended to manage its inventory and depot maintenance operations, has continued to experience problems with accurately recognizing revenue and billing customers, and the accuracy of its financial reports continues to be questionable. If information contained in asset accountability systems is not accurate, complete, and timely, DOD's day-to-day operations could be adversely affected. As of September 30, 2006, the Army reported that approximately $452 million had been obligated for this system effort and estimates that it will invest at least another $895 million in this program. Also, its schedule to reach full operational capability has slipped from fiscal year 2005 to fiscal year 2010.[21] We have recently reviewed the Army's progress in achieving asset visibility and expect to issue our report by the end of this month.[22]

Challenges Remain in Coordinating and Consolidating Distribution and Supply Support within a Theater

In our review of joint theater logistics, we found that DOD components have made progress developing and implementing joint theater logistics initiatives in the areas of distribution and supply support; however, the department faces a number of challenges that hinder its ability to fully realize the benefits of these efforts. Unless DOD successfully addresses these challenges, the initiatives are not likely to significantly improve the ability of a joint force commander to harness the diffuse logistics resources and systems that exist within the department and effectively and efficiently direct logistics functions, including distribution and supply support activities, across the theater of operations to accomplish an assigned mission.

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[21] Full operational capability means that the system has been deployed to all intended locations.

[22] We conducted this engagement in response to a request from the Subcommittee on Readiness and Management Support, Senate Armed Services Committee.

For example, initiatives to improve the coordination of surface transportation assets—mainly trucks—in a theater of operations face challenges such as potential duplication of responsibilities, the unavailability of information technology tools, and unclear lines of command and control. According to a 2005 RAND Corporation study,[23] during the initial phase of Operation Iraqi Freedom there was no single organization deployed in theater with the authority to rebalance transportation assets across the theater and integrate and synchronize the surface deployment and distribution movements of materiel in support of the commander's priorities. As part of its modular transformation, the Army is creating theater and expeditionary sustainment commands that are aimed in part at centralizing control over Army surface transportation assets within a theater of operations.[24] In a separate initiative, U.S. Transportation Command created a new organization, the director of mobility forces-surface, to integrate surface deployment and distribution priorities set by the joint force commander.

Army officials raised concerns about whether the theater and expeditionary sustainment commands would have the information technology tools and personnel necessary to effectively and efficiently carry out their missions. They said that these commands were designed to be smaller than their predecessors, based on an assumption that certain information technology tools would be available to enable the commands to operate with fewer personnel. However, some of these information technology tools—such as the next generation Mobile Tracking System, Battle Command Sustainment Support System, and Transportation Coordinator's Automated Information for Movements System II—have experienced problems during their development that have limited their capability or have delayed their fielding. According to Army officials, the shortcomings in available information tools have resulted in the need for additional staff in the theater and expeditionary sustainment commands and have required the commands to use manual, ad hoc techniques, which are cumbersome and manpower intensive, to validate, coordinate, and analyze data for decision making.

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[23] RAND Corporation, *Sustainment of Army Forces in Operation Iraqi Freedom: Battlefield Logistics and Effects on Operations*, Contract No. DASW01-C-0003 (Santa Monica, Calif.: 2005).

[24] Theater sustainment commands provide the Army a single headquarters responsible for operational command and control of logistics operations throughout the theater. Expeditionary sustainment commands, a forward extension of the theater sustainment commands, have a primary role of managing regional logistics operations in support of the joint task force commander.

The U.S. Transportation Command-led efforts to establish the director of mobility forces-surface have also faced implementation challenges. The initial assessment of the director of mobility forces-surface pilot in Kuwait by U.S. Transportation Command and U.S. Central Command indicated that the initiative faces a number of challenges related to command and control, availability of information technology tools, securing personnel with the expertise and knowledge to use the information technology tools that are available, and potential duplication of responsibilities with other Army organizations. U.S. Central Command discontinued the pilot in May 2007 until some of these issues were resolved. In addition, the Army reviewed more than 100 proposed responsibilities of the director of mobility forces-surface and found that most of these responsibilities are already covered by the Army's theater and expeditionary sustainment commands or other commands.

DOD also has developed initiatives to consolidate and improve storage and shipping of materiel, including node management and deployable depot, joint regional inventory and material management, and theater consolidation and shipping point,[25] but such efforts have been implemented on a limited scale. During our visits to Kuwait, we found that the Defense Logistics Agency and the Army were operating separate facilities that have the potential for consolidation, which could result in more efficient use of resources. We discussed this issue with senior U.S. military officials in Kuwait and with Defense Logistics Agency officials. Following these discussions and the completion of our fieldwork, the Defense Logistics Agency assessed ways to improve theater distribution and made recommendations to consolidate and relocate existing operations. Specifically, in April 2007, the Defense Logistics Agency study team recommended terminating the theater consolidation and shipping point contract, assuming these functions at the defense distribution depot, and drawing down inventory and operations at the Army general support warehouse at Camp Arifjan.

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[25] Node management and deployable depot is a Defense Logistics Agency initiative to develop a small-scale, rapidly deployable distribution center that has the capability to provide consolidated shipping, receiving, cross-docking, storage, communication, and order processing. Joint regional inventory and material management, identified as one of the 10 initiatives in the plan, was discussed earlier in this statement. Theater consolidation and shipping points is an effort by the Defense Logistics Agency, in coordination with the Army and combatant commands, to improve the efficiency and interoperability of materiel consolidation and shipping activities.

Finally, various options have emerged for improving the ability of a joint force commander to exercise command and control over joint theater logistics functions. U.S. Joint Forces Command is coordinating the joint experimental deployment and support initiative, whose objective is to experiment with a range of command and control options that can provide logistics coordination, integration, and synchronization to meet the combatant commander's priorities. The initiative builds upon DOD's joint deployment distribution operations center concept and progresses along a continuum to include more robust organizational options. However, the military services have raised concerns about how their own roles and responsibilities for providing logistics support might be affected and have opposed expansion of the most robust command and control option that has emerged—known as the joint force support component command.

Our discussions with officials from the combatant commands and the military services indicated that there are unresolved issues related to exercising joint command and control over logistics functions in a theater of operations. A number of officials had concerns about how organizations such as the joint force support component command would be staffed and what roles and authorities it would have. Specifically, they mentioned statutory requirements for logistics support, directive authority for logistics, and operational and financial considerations. The services expressed concerns about mandating that they provide staff to the joint force support component command, while also fulfilling their Title 10 responsibilities to man, train, and equip their forces.[26] Officials from military service components in the geographic combatant commands raised the issue of having a service component take direction from a separate component command at the same level, rather than from a higher-level command, and they were resistant to losing personnel to such an organization because the service component commands still have tactical logistics responsibilities to fulfill. Some military service officials raised questions about the effectiveness of a joint force support component command that lacked an ability to exercise directive authority for logistics. This authority gives the combatant commander the ability to shift logistics resources within the theater in order to accomplish a mission.[27] Officials we interviewed did not believe this authority could be delegated below the level of a joint force commander or service component commander[28] to an entity such as the joint force support component command. Thus, they questioned how the joint force support component command differs from other logistics command and control organizations if the organization can make recommendations to the joint force commander but not actually direct the transfer of assets across the service components, known as cross-leveling. Readiness and financial considerations related to exercising directive authority for logistics include the military operational risks and trade-offs associated with cross-leveling. Assets diverted from one unit to support another unit may affect the giving organization's ability to conduct a future operation, and officials raised concerns that logisticians in a separate logistics command may not fully understand the impact of cross-leveling on the next military mission. Additionally, because the services obtain funding for their own assets, several officials told us that some form of financial reconciliation must be considered when exercising directive authority for logistics.

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[26] Various provisions of Title 10, U.S. Code establish responsibilities and authorities for supplying and equipping the armed forces. See 10 U.S.C. §§ 3013, 3062, 5013, 5062, 5063, 8013, and 8062.

Transforming and Improving Defense Business Operations Are Integral to Resolving Supply Chain Management Problems

DOD spends billions of dollars to sustain key business operations intended to support the warfighter, including systems and processes related to the supply chain and other business areas. We have reported on inefficiencies in DOD's business operations, such as the lack of sustained leadership and a comprehensive, integrated, and enterprisewide business plan. Moreover, at a time of increasing military operations and growing fiscal constraints, billions of dollars have been wasted annually because of the lack of adequate transparency and appropriate accountability across DOD's business areas.

As we have previously stated, progress in DOD's overall approach to business transformation is needed to confront problems in other high-risk areas, including supply chain management.[29] Because of the complexity and long-term nature of business transformation, we have stated that DOD needs a Chief Management Officer with significant authority, experience, and a term that would provide sustained leadership and the time to integrate DOD's overall business transformation efforts. Without formally designating responsibility and accountability for results, reconciling competing priorities among various organizations and prioritizing investments will be difficult and could impede the department's progress in addressing deficiencies in key business areas. Based on our long-standing body of work, pending legislative language, and the results of studies completed by the Defense Business Board and the Institute for Defense Analysis, there is a clear consensus that the department needs a Chief Management Officer and that the status quo is no longer acceptable.

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[27] Under 10 U.S.C. §164, unless otherwise directed by the President or the Secretary of Defense, the authority, direction, and control of the commander of a combatant command with respect to the commands and forces assigned to that command include giving authoritative direction to subordinate commands and forces necessary to carry out missions assigned to the command, including authoritative direction over all aspects of military operations, joint training, and logistics.

[28] Joint Chiefs of Staff, Joint Publication 4-0, *Doctrine for Logistic Support of Joint Operations* (Apr. 6, 2000), p. I-3.

The two other DOD high-risk areas that are most closely linked with supply chain management are modernizing business systems and improving financial management. Successful resolution of supply chain management problems will require investment in needed information technology. The DOD systems environment that supports these operations is overly complex and error prone, and is characterized by little standardization across the department, multiple systems performing the same tasks, the same data stored in multiple systems, and the need for data to be entered manually into multiple systems. Modernized business systems are essential to the department's effort to address its supply chain management issues. In its plan, DOD recognizes that achieving success in supply chain management depends on developing interoperable systems that can share critical supply data. One of the initiatives included in the plan is business system modernization, an effort that is being led by DOD's Business Transformation Agency and that includes achieving materiel visibility through systems modernization as an enterprisewide priority.

Regarding financial management, we have repeatedly reported that weaknesses in business management systems, processes, and internal controls not only adversely affect the reliability of reported financial data, but also the management of DOD operations. Such weaknesses have adversely affected the ability of DOD to control costs, ensure basic accountability, anticipate future costs and claims on the budget, measure performance, maintain funds control, and prevent fraud. In 2005, DOD issued its Financial Improvement and Audit Readiness Plan, which is intended to provide DOD components with a road map for resolving problems affecting the accuracy, reliability, and timelines of financial information and obtaining clean financial statement audit opinions. However, tangible evidence of improvements in financial management remains limited, and DOD recognizes that it will take several years to implement the systems, processes, and other improvements needed to address its financial management challenges.

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[29] The other high-risk areas under DOD's approach to business transformation are business systems modernization, the personnel security clearance program, support infrastructure management, financial management, and weapon systems acquisition.

Improving Supply Chain Management May Involve Reexamining Fundamental Aspects of DOD's Logistics Governance and Strategy

Our recent review of joint theater logistics raises concerns about whether DOD can effectively implement this initiative without reexamining fundamental aspects of the department's logistics governance and strategy. In this respect, joint theater logistics may serve as a microcosm of some of the challenges DOD faces in resolving supply chain management problems. We found that DOD has not developed a coordinated and comprehensive management approach to guide and oversee implementation of joint theater logistics across the department. Efforts to develop and implement joint theater logistics initiatives have been fragmented among various DOD components largely because of a lack of specific goals and strategies, accountability for achieving results, and outcome-oriented performance measures—key principles of sound management. While DOD has broadly defined joint theater logistics as an adaptive ability to anticipate and respond to emerging theater logistics and support requirements, it has not developed specific goals and strategies linked to this vision. In addition, DOD has not assigned accountability for achieving results under joint theater logistics and has not developed outcome-oriented performance measures that would enable the department to know whether its efforts are fully and effectively achieving a joint theater logistics capability. Without a coordinated and comprehensive approach to managing joint theater logistics, DOD lacks assurance that it is on the right path toward achieving this capability or that individual initiatives will collectively address gaps in logistics capabilities. Further, DOD will have difficulty achieving the desired improvements in distribution and asset visibility associated with joint theater logistics as portrayed in the plan.

Based on our review, we recommended that DOD develop and implement a coordinated and comprehensive management approach to guide and oversee efforts across the department to improve distribution and supply support for the U.S. forces in a joint theater. This approach should encompass sound management principles, including developing specific strategies and goals, assigning accountability for achieving results, and using outcome-oriented performance measures. Moreover, in that report we recommended that DOD align its approach to joint theater logistics with ongoing actions the department is taking to reform its logistics governance and strategy, which are discussed below. In considering options for implementing this recommendation, we stated that DOD should determine whether any changes should be made to DOD's organizational structure and control of resources for joint logistics support, and identify the steps needed to make these changes, including changes to existing laws, such as Title 10. DOD concurred with our recommendation.

Regarding logistics governance, DOD has been testing a new approach to managing joint capabilities as a portfolio.[30] In September 2006, the Deputy Secretary of Defense selected joint logistics as one of four capability areas for testing capabilities portfolio management.[31] These experiments were initiated in response to the 2006 Quadrennial Defense Review, which emphasized DOD's need to build on capabilities-based planning and management. According to DOD officials, the purpose of this test is to determine if DOD can make better leadership decisions by managing a portfolio of capabilities instead of managing systems and capabilities individually. Thus, this portfolio test is intended to enable senior leaders to consider trade-offs across previously stovepiped areas and to better understand the implications of investment decisions across competing priorities. Specifically in the joint logistics area, the portfolio includes all capabilities required to project and sustain joint force operations, including supply chain operations. While DOD officials told us the initial results of the test have been completed and have shown that portfolio management is an effective means for managing capabilities, they said that decisions had not yet been made on how to implement this new governance approach.

The decisions DOD makes on capabilities portfolio management will also influence the development of its logistics strategy. In our prior work, we have noted that DOD has undertaken various efforts over the years to identify, and plan for, future logistics needs, but it has lacked an overarching, consistent logistics strategy. Last year, the department began to develop a "to be" road map to guide future logistics programs and initiatives. DOD officials described the "to be" road map as portraying where the department is headed in the logistics area and how it will get there; monitoring progress toward achieving its objectives; and institutionalizing a continuous assessment process that links ongoing capability development, program reviews, and budgeting. According to DOD officials, the initiatives in the plan will be incorporated into the "to be" road map. At this time last year, the first edition of the "to be" road map was scheduled for completion in February 2007, in conjunction with the submission of the President's Budget for Fiscal Year 2008, with annual updates planned. However, DOD subsequently put the "to be" road map on hold pending the completion of the capabilities portfolio management test. DOD officials have told us that the "to be" road map is now scheduled to be completed in summer 2008. In January,[32] we recommended that DOD improve its ability to guide logistics programs and initiatives across the department and to demonstrate the effectiveness, efficiency, and impact of its efforts to resolve supply chain management problems by completing the development of a comprehensive, integrated logistics strategy that is aligned with other defense business transformation efforts. DOD concurred with our recommendation.

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[30] DOD has identified other actions in addition to portfolio management for improving DOD governance. For example, DOD is studying ways to establish better strategic direction and exploring options for DOD capital resource allocation and funding stability.

[31] The other three test cases are joint command and control, joint net-centric operations, and battlespace awareness.

In reviewing DOD's approach to developing and implementing joint theater logistics initiatives, we found that the diffused organization of DOD's logistics operations, including separate funding and management of resources and systems, complicates DOD's ability to adopt a coordinated and comprehensive approach. Several recent studies of DOD logistics system have reached similar conclusions. Since 2003, a number of studies have recommended changes to DOD's organizational structure for providing joint logistics and supply support to military operations.[33] Some of these organizations have noted that control over resources is a critical issue to be addressed. For example, the Defense Science Board recommended creation of a joint logistics command that would combine the missions of U.S. Transportation Command, the Defense Logistics Agency, and service logistics commands. The Center for Strategic and International Studies also suggested the creation of a departmentwide logistics command responsible for end-to-end supply chain operations.

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[32] GAO-07-234.

[33] For a listing of these studies and their recommendations, see GAO-07-234.

Regarding resource allocation, this study further stated that resources should be organized, managed, and budgeted largely along military service lines, but in those instances where joint capability needs are not being met by the services, the Secretary must turn to joint processes and entities. The Lexington Institute, which also recommended creation of a U.S. logistics command at the four-star level, concluded that Title 10 may need to be amended in order to create this command. The Lexington Institute also concluded that existing funding mechanisms act as disincentives for joint logistics transformation and interoperability. The Defense Business Practice Implementation Board, while not agreeing with the idea of combining U.S. Transportation Command and the Defense Logistics Agency, recommended that DOD elevate leadership for supply chain integration by designating a new under secretary of defense who would have authority to direct integration activities, including control over budget decisions affecting these two components and the military services. While we noted that transformational changes such as those proposed by these organizations may not be possible without amending existing laws, the scope of our joint theater logistics review did not include an assessment of these proposals or what changes, if any, would require congressional action.

Also contributing to coordination problems in the area of supply chain management have been difficulties in clearly defining the responsibilities and authorities of defense components that have a role in supply chain operations. For example, although the Secretary of Defense in 2003 designated the Commander, U.S. Transportation Command, as DOD's distribution process owner—with responsibilities for overseeing the overall effectiveness, efficiency, and alignment of DOD-wide distribution activities—DOD has yet to issue a directive defining the process owner's authority, accountability, resources, and responsibility.[34] We have recommended that DOD enhance its ability to take a more coordinated approach to improving the supply distribution system by, among other things, clarifying the scope of responsibilities, accountability, and authority between the distribution process owner and other organizations.[35] Although DOD did not concur with this recommendation at the time we issued our report in 2005, DOD officials have recently told us they plan to issue a directive aimed at more clearly defining the role of the distribution process owner. Until this directive is issued, the responsibilities and authorities of the distribution process owner remain unclear. Echoing this theme, the Defense Business Board in April 2007 recommended that DOD take steps to clearly identify decision-making authority regarding supply chain integration. Specifically, the Defense Business Board recommended that DOD define and communicate enterprise goals in order to align initiatives; clearly define responsibilities and authorities of all players in the supply and distribution processes; and allocate responsibility and authority to set direction and oversee progress, and make necessary decisions to carry out DOD's agreed-upon supply chain management strategy and achieve enterprise goals.

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[34] In May 2006, the Deputy Secretary of Defense redesignated the Commander, U.S. Transportation Command as DOD's distribution process owner. Under this redesignation, the mission of the distribution process owner is to oversee the overall effectiveness, efficiency, and alignment of DOD-wide distribution activities and to establish concepts and operational frameworks relating to the planning and execution of DOD transportation operations.

DOD, like much of the federal government, will face critical challenges during the 21st century that will test fundamental notions about how agencies and departments should be organized and aligned to carry out their missions. For example, the department faces challenges in accomplishing its transformation goals and making improvements in key business areas such as supply chain management. We have suggested that decision makers may need to reexamine fundamental aspects of DOD's programs by considering issues such as whether current organizations are aligned and empowered to meet the demands of the new security environment as efficiently as possible and what kinds of economies of scale and improvements in delivery of support services would result from combining, realigning, or otherwise changing selected support functions, including logistics. [36]

Concluding Observations

Between now and the next update of our high-risk series in 2009, we plan to continue to assess DOD's progress in resolving supply chain management problems against the criteria we have established for removing a high-risk designation. In addition to monitoring the progress of DOD's plan, we plan to conduct audits related to specific aspects of supply chain management. As I indicated earlier, a priority for the department as it moves forward should be to track and assess the outcomes achieved through its initiatives and the progress made in resolving supply chain management problems in the three focus areas of asset visibility, requirements forecasting, and materiel distribution. We will also consider progress made in defense business transformation, business system modernization, and financial management because of the close linkage between these efforts and DOD's success in improving its supply chain management. We look forward to working with the department to provide an accurate appraisal of progress toward the goal of successfully resolving problems that have hindered effective and efficient supply chain management.

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[35] GAO-05-775.

[36] GAO, *21st Century Challenges: Reexamining the Base of the Federal Government*, GAO-05-325SP (Washington, D.C.: February 2005).

Mr. Chairman, this concludes my prepared remarks. I would be happy to answer any questions you or other Members of the Subcommittee may have.

Contacts and Acknowledgments

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BACKGROUND
FROM WAREHOUSE TO WARFIGHTER: AN UPDATE ON SUPPLY CHAIN MANAGEMENT AT DOD
July 10, 2007

BACKGROUND

The goal of supply chain management is to deliver the "right items to the right place at the right time" to the warfighter. The Department of Defense (DoD) relies on a number of individual processes and activities, which collectively make up supply chain management to purchase, produce, and deliver products and services to operational military forces during wartime or contingency operations.

DoD generally accumulates reserves of weapons systems, equipment, spare parts, and other items during peacetime for eventual use in a contingency operation. These reserves are intended to supply the warfighter in contingency operations until the national supply system can increase production sufficiently to meet DoD's needs. DoD relies on the defense working capital funds to finance the flow of supplies to the services. Since the 1990's, the Government Accountability Office (GAO) has identified DoD's supply chain management as a high-risk area because of high inventory levels and a supply system that is not responsive enough to the needs of the warfighter.

DOD PLAN FOR IMPROVEMENT - GAO HIGH RISK LIST

In order to improve the supply chain management process, DoD, the Office of Management and Budget (OMB), and GAO worked together at the request of this Subcommittee to develop a supply chain management improvement plan. The plan consists of ten specific initiatives that can be measured against three strategic goals, which include improvements in (1) asset visibility; (2) forecasting; and (3) distribution. This plan is updated regularly, with the most recent update released in May 2007[1]. These 10 areas are discussed in greater detail below.

This plan includes several metrics used by the Department that can track short-term progress on supply chain improvements. The metrics are (1) reducing backorders; (2) improving customer wait times; (3) improving logistics response time; and (4) improving on-time orders. However, according to GAO, these metrics may be inadequate and may not necessarily reflect performance.

GAO has stated in multiple reports that DoD lacks outcome focused[2] metrics and cost metrics to track progress in improving supply chain management.[3]

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[1] Department of Defense, "DoD Plan for Improvement in the GAO High Risk Area of Supply Chain Management with a Focus on Inventory Management and Distribution." May 2007.

[2] The metrics that DoD uses to gauge overall progress do not always specifically relate to the initiatives in the plan.

[3] GAO, "Progress Made Implementing Supply Chain Management Recommendations, but Full Extent of Improvement Unknown." GAO-07-234, January 2007.

JOINT THEATER LOGISTICS

One of the ten areas for improvement that this hearing will pay particular attention is Joint Theater Logistics, which focuses on getting the right supplies into a combat theater in a timely manner. After last year's hearing, Senators Akaka and Voinovich requested a GAO report expanding on Joint Theater Logistics and its challenges. The report will be released at the hearing.

Despite large scale logistic efforts in supporting Operation Iraqi Freedom, there have been problems with asset visibility and material distribution. One example identified by the GAO report involves management of 20- and 40- foot sea-land containers. As of April 30, 2007, over 54,000 containers were reported as lost in DoD's management system. Additionally, thousands of commercial containers were not returned on time, costing DoD approximately $15 million per month.[4] Approximately 28,000 of these containers were eventually bought out by DoD at a cost of $203 million in order to avoid container detention charges.[5,6]

The Joint Theater Logistics initiative seeks to enable DoD to centralize all of their theater logistics instead of having the individual military services handling the process independently of one another. The Joint Theater Logistics process is led by the Department of Defense's Joint Staff (J4).

Currently, the Defense Logistics Agency (DLA) is responsible for managing and providing supplies for the warfighter. TRANSCOM has been named the Distribution Process Owner (DPO), and is responsible for getting supplies into a theater. Individual geographic combatant commands (COCOMS) are then responsible for intra-theater logistics, including management and distribution. All components involved with Joint Theater Logistics have worked together to create Deployment and Distribution Operations Centers (DDOC's), which coordinate getting supplies into the hands of the warfighter within a theater of operations.

The GAO report finds, as with most supply chain issues, that DoD faces several challenges in implementing joint theater logistics due to departmental management problems. However, they do note that components have made several improvements to joint theater logistics activities, but that they could do better with coordinated management.

OTHER INITIATIVES IN THE DOD PLAN FOR IMPROVEMENT[7]

- **Radio Frequency Identification (RFID)** will allow DoD to use scanning and radio frequency technology to track the location of goods stored in warehouses and those moving through the supply chain. DoD expects that RFID will improve the visibility, timeliness, and accuracy of the shipping and receiving of assets. This technology is similar to a bar code scanner that is used when purchasing products in stores.

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[4] U.S. Army Audit Agency, "Asset Visibility and Container Management – Operation Iraqi Freedem, Audit Report." July 5, 2005.

[5] Government Accountability Office, Efforts to Improve Distribution and Supply Support for Joint Military Operations Could Benefit from a Coordinated Management Approach. June 2007.

[6] Container Detention Charges are charges by commercial shippers that are incurred on containers that are not returned within the agreed upon time.

[7] "DoD Plan for Improvement in the GAO High Risk Area of Supply Chain Management with a Focus on Inventory Management and Distribution." Department of Defense, May 2007.

- **Item Unique Identification (IUID)** provides for marking items with a machine-readable unique item identifier, which is a set of globally unique data elements. The technology is similar to a bar code that you see on everyday products in stores. The UII is used to provide important tracking information on DoD assets. Once items are labeled with this technology, DoD will be able to keep more detailed information on their assets. The information could be used to ensure accurate acquisition, repair, and deployment of items in an efficient and effective manner.
- **Joint Regional Inventory Material Management (JRIMM)** seeks to streamline the storage and distribution of assets within a geographic area in order to eliminate duplicate and non-value added procedures that hamper the inventory management process. Under JRIMM, all of the components in the selected geographic area would work together to identify steps to streamline the way assets will move within that area. The first JRIMM operation is on Oahu where PACOM is overseeing the establishment of a single inventory and distribution system utilized by all commands.
- **Readiness Based Sparing (RBS)** is a process that will help DoD answer key inventory management questions. The goal of RBS is to provide improved readiness while lowering the overall cost of managing the DoD's assets. This process is based on a modeling technique to help DoD determine how best to invest in spare parts to improve the Department's readiness.
- **War Reserve Materiel Improvements** will allow the Department to increase readiness and improve forecasting of war reserve materiel. The war reserves inventory contain assets that are supplied to the war fighter at initial stages of any war.
- **Commodity Management** is a private industry best practice that will enable DoD to formulate long-term inventory decisions by looking at the cost and reliability of assets over their total lifecycle, which includes initial purchases through termination. This initiative will help the Department get the best value for their assets by employing techniques like cost-benefit analysis. Each military service already has a Commodity Management plan. However, DoD intends to develop one centralized strategy to link each plan from the services together.
- **Joint Deployment and Distribution Operations Center (JDDOC)** will provide Combatant Commands (such as Central Command) with a joint theater logistics capability, including supply, transportation, and distribution of assets and material moving into and out of the theater.
- **Defense Transportation Coordination Initiative (DCTI)** will help DoD improve the reliability, predictability, and efficiency of DoD material moving within the Continental United States. DoD will rely on industry best practices to consolidate their shipments in order to improve performance and lower costs.
- **Business Management Modernization Program** was created on May 20, 2003, by former DoD Under Secretary of Defense (Comptroller) and Chief Financial Officer, Dov Zakheim, to replace the Department's Financial Management Modernization Program. The BMMP was designed to focus on the transformation of business operations to achieve improved warfighter support, while providing auditable financial reporting across DoD. The information technology improvements in the Department's Business

Management Modernization Program are essential for streamlining DoD's supply chain management process.

STRATEGIC PLANS WITH LINKS TO SUPPLY CHAIN MANAGEMENT

In addition to the DoD Plan for Improvement, there are multiple other strategic documents produced by several components within the Office of the Secretary of Defense. All of these plans address different aspects of supply chain management. Currently, DoD lacks a single unified plan for improving supply chain management, though there are some common threads. Other strategic plans include:

- Quadrennial Defense Review;
- Logistics Transformation Strategy;
- Focused Logistics Roadmap;
- Enterprise Transition Plan; and
- To Be Roadmap (still under development);

Quadrennial Defense Review[8]*:* All of DoD's strategic planning are supposed to be developed based on the Quadrennial Defense Review (QDR). The QDR contains a short section on "Managing Supply Chain Logistics" that can be linked to each of the supply chain management plans. In addition, the QDR highlights DoD's ongoing efforts to use Radio Frequency Identification technology to track assets moving through the supply chain.

Logistics Transformation Strategy[9]*:* The second tier of DoD's supply chain management planning process is the Logistics Transformation Strategy, which was developed at the direction of the Department's FY 2006 Strategic Planning Guidance. The plan will enable DoD to better manage logistics and to integrate and coordinate joint capabilities for military operations. The plan also includes tests to refine, validate, integrate, and socialize transformational logistics technology and concepts.

Focused Logistics Roadmap[10]*:* DoD's Logistics Transformation Strategy led to the development of the Focused Logistics Roadmap. The goal of Focused Logistics is to integrate DoD's efforts across the four military services. As an element of the overall Logistics Transformation Strategy, the Focused Logistics Roadmap assembles, integrates, and documents focused logistics-enabling programs and initiatives and reports progress toward the achievement of focused logistics. To this end, the Focus Logistics Roadmap provides transparent links to the QDR and the Department's Supply Chain Management High-Risk Improvement Plan.

Enterprise Transition Plan[11]*:* The fourth strategic document in DoD's supply chain planning process is the Enterprise Transition Plan. This plan provides a roadmap for transforming the Department's business operations, which is considered by GAO as DoD's overarching high-risk area. The plan describes a business transformation strategy properly aligned with the warfighting mission, a process centered on achieving business priorities with specific results-based outcomes, and the mechanisms that will guide implementation. In addition, portions of this plan are linked to other DoD supply chain and logistics strategic documents, including the QDR and the Supply Chain Management High-Risk Improvement Plan.

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[8] Department of Defense, *Quadrennial Defense Review Report.* February 6, 2006.

[9] Department of Defense, *Defense Logistics Strategy.* December 10, 2004.

[10] Department of Defense, *Focused Logistics Roadmap.* August 1998.

[11] Department of Defense, *Enterprise Transition Plan.* September 28, 2006.

To Be Roadmap[12]: The "To Be" roadmap originally was scheduled for release in February 2007. This document is meant to be a more cohesive roadmap that gives an overall look at where DoD is going in the logistics field, how it intends to get there and how progress and performance will be measured. It is intended to identify the scope of logistics problems and capability gaps, and would include specific performance goals, programs, milestones, resources, and metrics to guide improvements in supply chain management and other areas of DOD logistics. The roadmap has been delayed while DoD finishes up pilot projects related to the roadmap's content.

ADDITIONAL INFORMATION/RESOURCES:

Department of Defense, *Quadrennial Defense Review Report.* February 6, 2006. [http://www.defenselink.mil/qdr/report/Report20060203.pdf]

Department of Defense, *Defense Logistics Strategy.* December 10, 2004. [https://acc.dau.mil/GetAttachment.aspx?id=32584&pname=file&lang=en-US&aid=6183]

Department of Defense, *Focused Logistics Roadmap.* August 1998. [http://www.acq.osd.mil/log/lmr/programs/focuslog.pdf]

Department of Defense, *Enterprise Transition Plan.* September 28, 2006. [http://www.defenselink.mil/dbt/products/Sept-06-BEA_ETP/index.htm]

Department of Defense, *DoD Plan for Improvement in the GAO High Risk Area of Supply Chain Management with a Focus on Inventory Management and Distribution.* May 2007. [http://www.acq.osd.mil/log/sci/High_Risk_Update_May_2007.doc]

Government Accountability Office, *Progress Made Implementing Supply Chain Management Recommendations, but Full Extent of Improvement Unknown.* January 2007. [http://www.dss.mil/diss/jpas/docs/JPAS-How-to-Manual.pdf]

Government Accountability Office, *Efforts to Improve Distribution and Supply Support for Joint Military Operations Could Benefit from a Coordinated Management Approach.* June 2007. (Temporarily Embargoed Pending Official Public Release at Hearing)

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[12] GAO, "Progress Made Implementing Supply Chain Management Recommendations, but Full Extent of Improvement Unknown," GAO-07-234, January 2007.

SUGGESTED QUESTIONS

Are changes needed to Title 10 in order to give TRANSCOM sufficient authority to carry out its mission as Distribution Process Owner?

When is the "To Be" Roadmap expected to be complete?

Is the Defense Security Service budget request for FY2008 Adequate to maintain operations also paying for security clearances?

Could DoD benefit from using more commercial performance metrics, such as the Supply Chain Operations Reference-model[13]?

Other than Information Technology, what barriers exist to achieving Total Asset Visibility?

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[13] Supply Chain Council, [http://www.supply-chain.org/page.ww?section=SCOR+Model&name=SCOR+Model]

United States Government Accountability Office

GAO

Report to the Subcommittee on Oversight of Government Management, the Federal Workforce, and the District of Columbia, Committee on Homeland Security and Governmental Affairs, U.S. Senate

January 2007

DOD'S HIGH-RISK AREAS

Progress Made Implementing Supply Chain Management Recommendations, but Full Extent of Improvement Unknown

GAO
Accountability ★ Integrity ★ Reliability

G A O

Highlights

Highlights of GAO-07-234, a report to the Subcommittee on Oversight of Government Management, the Federal Workforce, and the District of Columbia, Committee on Homeland Security and Governmental Affairs, U.S. Senate

Why GAO Did This Study

Military operations in Iraq and Afghanistan have focused attention on the Department of Defense's (DOD) supply chain management. The supply chain can be critical to determining outcomes on the battlefield, and the investment of resources in DOD's supply chain is substantial. In 2005, with the encouragement of the Office of Management and Budget (OMB), DOD prepared an improvement plan to address some of the systemic weaknesses in supply chain management. GAO was asked to monitor implementation of the plan and DOD's progress toward improving supply chain management. GAO reviewed (1) the integration of supply chain management with broader defense business transformation and strategic logistics planning efforts, and (2) the extent DOD is able to demonstrate progress. In addition, GAO developed a baseline of prior supply chain management recommendations. GAO surveyed supply chain-related reports issued since October 2001, identified common themes, and determined the status of the recommendations.

What GAO Recommends

GAO recommends that DOD complete its logistics strategy and develop and implement outcome-focused performance metrics and cost metrics for supply chain management. DOD concurred with GAO's recommendations.

www.gao.gov/cgi-bin/getrpt?GAO-07-234.

To view the full product, including the scope and methodology, click on the link above. For more information, contact William M. Solis at (202) 512-8365 or solisw@gao.gov.

January 2007

DOD'S HIGH-RISK AREAS

Progress Made Implementing Supply Chain Management Recommendations, but Full Extent of Improvement Unknown

What GAO Found

DOD's success in improving supply chain management is closely linked with its defense business transformation efforts and completion of a comprehensive, integrated logistics strategy. Based on GAO's prior reviews and recommendations, GAO has concluded that progress in DOD's overall approach to business defense transformation is needed to confront problems in other high-risk areas, including supply chain management. DOD has taken several actions intended to advance business transformation, including the establishment of new governance structures and the issuance of an Enterprise Transition Plan aligned with the department's business enterprise architecture. As a separate effort, DOD has been developing a strategy—called the "To Be" logistics roadmap—to guide logistics programs and initiatives across the department. The strategy would identify the scope of logistics problems and capability gaps to be addressed and include specific performance goals, programs, milestones, and metrics. However, DOD has not identified a target date for completion of this effort. According to DOD officials, its completion is pending the results of the department's ongoing test of new concepts for managing logistic capabilities. Without a comprehensive, integrated strategy, decision makers will lack the means to effectively guide logistics efforts, including supply chain management, and the ability to determine if these efforts are achieving desired results.

DOD has taken a number of actions to improve supply chain management, but the department is unable to demonstrate at this time the full extent of its progress that may have resulted from its efforts. In addition to implementing audit recommendations, DOD is implementing initiatives in its supply chain management improvement plan. However, it is unclear how much progress its actions have resulted in because the plan generally lacks outcome-focused performance metrics that track progress in the three focus areas and at the initiative level. DOD's plan includes four high-level performance measures, but these measures do not explicitly relate to the focus areas, and they may be affected by many variables, such as disruptions in the distribution process, other than DOD's supply chain initiatives. Further, the plan does not include overall cost metrics that might show efficiencies gained through the efforts. Therefore, it is unclear whether DOD is meeting its stated goal of improving the provision of supplies to the warfighter and improving readiness of equipment while reducing or avoiding costs.

Over the last 5 years, audit organizations have made more than 400 recommendations that focused specifically on improving certain aspects of DOD's supply chain management. About two-thirds of the recommendations had been closed at the time GAO conducted its review, and most of these were considered implemented. Of the total recommendations, 41 percent covered the focus areas in DOD's supply chain management improvement plan: requirements forecasting, asset visibility, and materiel distribution. The recommendations addressed five common themes—management oversight, performance tracking, planning, policy, and processes.

Contents

Letter

Letter 1
Results in Brief 3
Background 6
Improvements to Supply Chain Management Are Linked with Overall Defense Business Transformation and Completion of a Comprehensive, Integrated Logistics Strategy 7
DOD Is Unable to Demonstrate the Full Extent of Its Progress Toward Improving Supply Chain Management 12
DOD's Supply Chain Management Plan Does Not Track Performance Outcomes and Costs Metrics Associated with Focus Areas and Initiatives 14
DOD Has Implemented Recommendations for Improving Aspects of Supply Chain Management 16
Conclusions 22
Recommendations for Executive Action 23
Agency Comments and Our Evaluation 23
Scope and Methodology 24

Appendixes

Appendix I: **Supply Chain Management: Summary of GAO Report Recommendations** 28
Appendix II: **Supply Chain Management: Summary of DOD-IG Report Recommendations** 60
Appendix III: **Supply Chain Management: Summary of Army Audit Agency Report Recommendations** 84
Appendix IV: **Supply Chain Management: Summary of Air Force Audit Agency Report Recommendations** 124
Appendix V: **Supply Chain Management: Summary of Naval Audit Service Report Recommendations** 138
Appendix VI: **Supply Chain Management: Summary of Non-audit Organization Report Recommendations** 146
Appendix VII: **Comments from the Department of Defense** 157
Appendix VIII: **GAO Contact and Staff Acknowledgments** 159

Table

Table 1: Audit Recommendations to Improve Supply Chain Management 20

GAO
Accountability * Integrity * Reliability

United States Government Accountability Office
Washington, D.C. 20548

January 17, 2007

The Honorable Daniel K. Akaka
Chairman
The Honorable George V. Voinovich
Ranking Minority Member
Subcommittee on Oversight of Government Management, the Federal
Workforce, and the District of Columbia
Committee on Homeland Security and Governmental Affairs
United States Senate

Military operations in Iraq and Afghanistan have focused attention on the performance of the Department of Defense's (DOD) supply chain management in support of deployed U.S. troops. The availability of spare parts and other critical supply items affects the readiness and operational capabilities of U.S. military forces, and the supply chain can be a critical link in determining outcomes on the battlefield. Moreover, the investment of resources in the supply chain is substantial, amounting to more than $150 billion a year according to DOD. As a result of weaknesses in DOD's management of supply inventories and responsiveness to warfighter requirements, supply chain management has been on our list of high-risk federal government programs since 1990. We initially focused on inventory management and later determined that problems extended to other parts of the supply chain, to include requirements forecasting, asset visibility, and materiel distribution.[1]

In 2005, with the encouragement of the Office of Management and Budget (OMB), DOD developed a plan to address some of the systemic weaknesses as a first step toward removing supply chain management from our high-risk list. Since then we have reviewed and commented on DOD's progress toward implementing its supply chain management improvement plan, the linkage of this plan with other DOD logistics[2] plans, and the extent to which DOD has incorporated performance metrics for tracking and demonstrating progress.[3] We have stated that, overall, DOD's plan addressing supply chain management is a good first step toward putting DOD on a path toward resolving long-standing supply chain management problems, but that the department faces a number of challenges and risks in fully implementing its proposed changes across the department and measuring progress.

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[1] GAO, *High-Risk Series: An Update*, GAO-05-207 (Washington, D.C.: January 2005).

[2] DOD defines "logistics" as the science of planning and carrying out the movement and maintenance of forces. Logistics has six functional areas: supply, maintenance, transportation, civil engineering, health services, and other services.

In response to your Committee's request, we have continued to monitor DOD's progress toward resolving supply chain management problems. Specifically, this report discusses (1) the integration of supply chain management with broader defense business transformation and strategic logistics planning efforts and (2) the extent to which DOD is able to demonstrate progress toward improving supply chain management. In addition, we developed a baseline of recommended improvements to DOD's supply chain management that have been made over the past 5 years.

Our discussion of the integration of supply chain management with broader defense business transformation efforts is based primarily on our prior reports and testimonies. We obtained information from officials in the Office of the Secretary of Defense on their efforts to develop an overarching strategy to guide departmentwide logistics programs and initiatives. We met regularly with DOD and OMB officials to discuss the overall status of the supply chain management improvement plan, the implementation schedules of the plan's individual initiatives, and the plan's performance measures. We visited and interviewed officials from U.S. Transportation Command, the Defense Logistics Agency, the military services, and the Joint Staff to gain their perspectives on improving supply chain management. In developing a baseline of recommended supply chain management improvements, we surveyed audit reports issued between October 2001 and September 2006 by our office, the Department of Defense Office of the Inspector General (DOD-IG), and the military service audit agencies. We selected this time period because it corresponds with the onset of recent military operations that began with Operation Enduring Freedom. For each audit recommendation contained in these reports, we determined its status and focus. In analyzing the status of recommendations, we determined whether DOD or the component organization[4] concurred with the recommendations, whether the recommendations were closed, and whether closed recommendations had been implemented. We determined that the data we obtained from the DOD-IG and the service audit agencies were sufficiently reliable for our purposes. In analyzing the focus of recommendations, we identified those addressing three specific areas—requirements forecasting, asset visibility, and materiel distribution—as well those addressing other supply chain management concerns. We selected these three focus areas as the framework for our analysis based on our prior work in this high-risk area and because DOD has structured its supply chain management improvement plan around them. While we included recommendations by non-audit organizations in our analysis, we did not determine the extent to which DOD concurred with or implemented them because their status is not systemically tracked. Additional information on our analysis, including further explanation of the terms used in describing the status of recommendations, is discussed in the scope and methodology section. We conducted our review from January through November 2006 in accordance with generally accepted government auditing standards.

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[3] GAO, *DOD's High-Risk Areas: High-Level Commitment and Oversight Needed for DOD Supply Chain Plan to Succeed*, GAO-06-113T (Washington, D.C.: Oct. 6, 2005) and *DOD's High-Risk Areas: Challenges Remain to Achieving and Demonstrating Progress in Supply Chain Management*, GAO-06-983T (Washington, D.C.: July 25, 2006).

Results in Brief

DOD's success in improving supply chain management is closely linked with its overall defense business transformation efforts and completion of a comprehensive, integrated logistics strategy. Our prior reviews and recommendations have addressed business management problems that adversely affect the economy, efficiency, and effectiveness of DOD's operations, and that have resulted in a lack of adequate accountability across several of DOD's major business areas. We have concluded that progress in DOD's overall approach to business transformation—identified as a high-risk area in 2005—is needed to confront other high-risk areas, including supply chain management. We have made a number of recommendations to address defense business transformation, including strengthening the management of DOD's business systems modernization through the adoption of enterprise architecture and investment management best practices. In response, DOD has taken several actions intended to advance transformation, such as establishing governance structures like the Business Transformation Agency and developing an Enterprise Transition Plan aligned with its business enterprise architecture. As a separate effort, DOD has been developing a strategy to guide logistics programs and initiatives across the department. Called the "To Be" logistics roadmap, this strategy would identify the scope of logistics problems and capability gaps to be addressed and include specific performance goals, programs, milestones, resources, and metrics to guide improvements in supply chain management and other areas of DOD logistics. DOD has not established a target date for completing the "To Be" logistics roadmap. According to DOD officials, its completion is pending the results of the department's ongoing test of new concepts for managing logistics capabilities. Initial results of this test are expected to be available in the spring of 2007. We have also noted previously that while DOD and its component organizations have developed multiple plans for improving aspects of logistics, the linkages among these plans have not been clearly shown. Without a comprehensive, integrated logistics strategy, decision makers will lack the means to effectively guide logistics efforts, including supply chain management, and the ability to determine if these efforts are achieving the desired results.

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[4] Depending on the nature of the recommendation, the component organization responding to it may be a military service, defense agency, command, or another office within DOD.

DOD has taken a number of actions to improve supply chain management, but the department is unable to demonstrate at this time the full extent of progress that may have resulted from its efforts. In addition to implementing audit recommendations, as discussed below, DOD is implementing initiatives in its supply chain management improvement plan. However, it is unclear how much progress its actions have resulted in because the plan generally lacks outcome-focused performance metrics that track progress in the three focus areas and at the initiative level. Performance metrics are essential for demonstrating progress toward achieving goals and providing information on which to base organizational and management decisions. Moreover, outcome-focused performance metrics show results or outcomes related to an initiative or program in terms of its effectiveness, efficiency, impact, or all of these. DOD's plan includes four high-level performance measures that are being tracked across the department, but these measures do not explicitly reflect the performance of the initiatives or relate to the focus areas. Additionally, these measures may be affected by many variables other than DOD's supply chain initiatives. For example, changes in customer wait time could result from wartime surges in requirements or disruption in the distribution process; hence, improvements in the high-level performance measures do not necessarily reflect the success of an initiative in DOD's supply chain management improvement plan. Further, the plan does not include overall cost metrics that might show efficiencies gained through improvement efforts. Although DOD faces challenges to developing departmentwide supply chain performance measures, such as the difficulty of obtaining standardized, reliable data from noninteroperable systems, without outcome-focused performance and cost metrics, it is unclear whether DOD is progressing toward meeting its stated goal of improving the provision of supplies to the warfighter and improving readiness of equipment while reducing or avoiding costs through its supply chain initiatives.

In developing a baseline of recommended supply chain management improvements, we identified 478 recommendations that audit organizations have made between October 2001 and September 2006. DOD or the component organization concurred with 411 (86 percent) of the total recommendations. In addition, 315 (66 percent) recommendations had been closed, and 275 (87 percent) of the closed recommendations had been implemented at the time we conducted our review. The three focus areas of requirements forecasting, asset visibility, and materiel distribution accounted for 196 (41 percent) of the total recommendations, while other inventory management issues accounted for most of the remaining recommendations. In addition, we further grouped the recommendations into five common themes—management oversight, performance tracking, planning, policy, and processes. Most of the recommendations addressed processes (38 percent), management oversight (30 percent), or policy (22 percent), with comparatively fewer addressing planning (7 percent) and performance tracking (4 percent).[5] Studies conducted by non-audit organizations, such as the Center for Strategic and International Studies and the Defense Science Board, made recommendations that address supply chain management as part of a broader review of DOD logistics. For example, both these organizations have suggested the creation of a departmentwide logistics command responsible for end-to-end supply chain operations.

We are making recommendations to the Secretary of Defense to improve DOD's ability to guide logistics programs and initiatives across the department and to demonstrate the effectiveness, efficiency, and impact of its efforts to resolve supply chain management problems. In commenting on a draft of this report, DOD concurred with our recommendations.

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[5] Percentages in this report do not always add to 100 due to rounding.

Background

For 16 years, DOD's supply chain management processes have been on our list of high-risk areas needing urgent attention because of long-standing systemic weaknesses that we have identified in our reports. We initiated our high-risk program in 1990 to report on government operations that we identified as being at high risk for fraud, waste, abuse, and mismanagement. The program serves to identify and help resolve serious weaknesses in areas that involve substantial resources and provide critical services to the public.

Removal of a high-risk designation may be considered when legislative and agency actions, including those in response to our recommendations, result in significant and sustainable progress toward resolving a high-risk problem.[6] Key determinants include a demonstrated strong commitment to and top leadership support for addressing problems, the capacity to do so, a corrective action plan that provides for substantially completing corrective measures in the near term, a program to monitor and independently validate the effectiveness of corrective measures, and demonstrated progress in implementing corrective measures.

Beginning in 2005, DOD developed a plan for improving supply chain management that could reduce its vulnerability to fraud, waste, abuse, and mismanagement and place it on the path toward removal from our list of high-risk areas. This supply chain management improvement plan, initially released in July 2005, contains 10 initiatives proposed as solutions to address the root causes of problems we identified from our prior work in the areas of requirements forecasting, asset visibility, and materiel distribution.

DOD defines requirements as the need or demand for personnel, equipment, facilities, other resources, or services in specified quantities for specific periods of time or at a specified time. Accurately forecasted supply requirements are a key first step in buying, storing, positioning, and shipping items that the warfighter needs. DOD describes asset visibility as the ability to provide timely and accurate information on the location, quantity, condition, movement, and status of supplies and the ability to act on that information. Distribution is the process for synchronizing all elements of the logistics system to deliver the "right things" to the "right place" at the "right time" to support the warfighter.

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[6] GAO, *Determining Performance and Accountability Challenges and High Risks*, GAO-01-159SP (Washington, D.C.: November 2000).

Improvements to Supply Chain Management Are Linked with Overall Defense Business Transformation and Completion of a Comprehensive, Integrated Logistics Strategy

DOD's success in improving supply chain management is closely linked with its overall defense business transformation efforts and completion of a comprehensive, integrated logistics strategy. In previous reports and testimonies, we have stated that progress in DOD's overall approach to business transformation is needed to confront problems in other high-risk areas, including supply chain management. DOD has taken several steps intended to advance business transformation, including establishing new governance structures and aligning new information systems with its business enterprise architecture. Another key step to supplement these ongoing transformation efforts is completion of a comprehensive, integrated logistics strategy that would identify problems and capability gaps to be addressed, establish departmentwide investment priorities, and guide decision making.

DOD Is Taking Steps to Advance Business Transformation

DOD's success in improving supply chain management is closely linked with overall defense business transformation. Our prior reviews and recommendations have addressed business management problems that adversely affect the economy, efficiency, and effectiveness of DOD's operations, and that have resulted in a lack of adequate accountability across several of DOD's major business areas.[7] We have concluded that progress in DOD's overall approach to business transformation is needed to confront other high-risk areas, including supply chain management. DOD's overall approach to business transformation was added to the high-risk list in 2005 because of our concern over DOD's lack of adequate management accountability and the absence of a strategic and integrated action plan for the overall business transformation effort. Specifically, the high-risk designation for business transformation resulted because (1) DOD's business improvement initiatives and control over resources are fragmented; (2) DOD lacks a clear strategic and integrated business transformation plan and investment strategy, including a well-defined enterprise architecture to guide and constrain implementation of such a plan; and (3) DOD has not designated a senior management official responsible and accountable for overall business transformation reform and related resources.

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[7] GAO, *Department Of Defense: Sustained Leadership Is Critical to Effective Financial and Business Management Transformation*, GAO-06-1006T (Washington, D.C.: Aug. 3, 2006); GAO, *Business Systems Modernization: DOD Continues to Improve Institutional Approach, but Further Steps Needed*, GAO-06-658 (Washington, D.C.: May 15, 2006); GAO, *DOD's High-Risk Areas: Successful Business Transformation Requires Sound Strategic Planning and Sustained Leadership*, GAO-05-520T (Washington, D.C.: Apr. 13, 2005).

In response, DOD has taken several actions intended to advance transformation. For example, DOD has established governance structures such as the Business Transformation Agency and the Defense Business Systems Management Committee. The Business Transformation Agency was established in October 2005 with the mission of transforming business operations to achieve improved warfighter support and improved financial accountability. The agency supports the Defense Business Systems Management Committee, which is comprised of senior-level DOD officials and is intended to serve as the primary transformation leadership and oversight mechanism. Furthermore, in September 2006, DOD released an updated Enterprise Transition Plan that is intended to be both a business transformation roadmap and management tool for modernizing its business process and underlying information technology assets. DOD describes the Enterprise Transition Plan as an executable roadmap aligned to DOD's business enterprise architecture. In addition, as required by the National Defense Authorization Act for Fiscal Year 2006, DOD is studying the feasibility and advisability of establishing a Deputy Secretary for Defense Management to serve as DOD's Chief Management Officer and advise the Secretary of Defense on matters relating to management, including defense business activities.[8]

Business systems modernization is a critical part of DOD's transformation efforts, and successful resolution of supply chain management problems will require investment in needed information technology. DOD spends billions of dollars to sustain key business operations intended to support the warfighter, including systems and processes related to support infrastructure, finances, weapon systems acquisition, the management of contracts, and the supply chain. We have indicated at various times that modernized business systems are essential to the department's effort in addressing its supply chain management issues.[9] In its supply chain management improvement plan, DOD recognizes that achieving success in supply chain management is dependent on developing interoperable systems that can share critical supply data. One of the initiatives included in the plan is business system modernization,[10] an effort that is being led by DOD's Business Transformation Agency and includes achieving materiel visibility through systems modernization as one of its six enterprisewide priorities.

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[8] National Defense Authorization Act for Fiscal Year 2006, Pub. L. No. 109-163, § 907 (2006).

Improvements in financial management are also integrally linked to DOD's business transformation. Since our first report on the financial statement audit of a major DOD component over 16 years ago, we have repeatedly reported that weaknesses in business management systems, processes, and internal controls not only adversely affect the reliability of reported financial data, but also the management of DOD operations.[11] Such weaknesses have adversely affected the ability of DOD to control costs, ensure basic accountability, anticipate future costs and claims on the budget, measure performance, maintain funds control, and prevent fraud. In December 2005, DOD issued its Financial Improvement and Audit Readiness Plan to guide its financial management improvement efforts. The Financial Improvement and Audit Readiness Plan is intended to provide DOD components with a roadmap for (1) resolving problems affecting the accuracy, reliability, and timeliness of financial information; and (2) obtaining clean financial statement audit opinions. It uses an incremental approach to structure its process for examining operations, diagnosing problems, planning corrective actions, and preparing for audit. The plan also recognizes that it will take several years before DOD is able to implement the systems, processes, and other changes necessary to fully address its financial management weaknesses. Furthermore, DOD has developed an initial Standard Financial Information Structure, which is

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[9] GAO-06-1006T; GAO-06-658; GAO, *DOD Business Systems Modernization: Important Progress Made in Establishing Foundational Architecture Products and Investment Management Practices, but Much Work Remains*, GAO-06-219 (Washington, D.C.: Nov. 23, 2005).

[10] This program was previously called the Business Management Modernization Program, but it ceased to exist as a program with the establishment of the Business Transformation Agency.

[11] GAO-06-1006T; GAO-06-658; GAO, *Defense Management: Foundational Steps Being Taken to Manage DOD Business Systems Modernization, but Much Remains to be Accomplished to Effect True Business Transformation*, GAO-06-234T (Washington, D.C.: Nov. 9, 2005).

DOD's enterprisewide data standard for categorizing financial information. This effort focused on standardizing general ledger and external financial reporting requirements.

While these steps are positive, defense business transformation is much broader and encompasses planning, management, organizational structures, and processes related to all key business areas. As we have previously observed, business transformation requires long-term cultural change, business process reengineering, and a commitment from both the executive and legislative branches of government. Although sound strategic planning is the foundation on which to build, DOD needs clear, capable, sustained, and professional leadership to maintain continuity necessary for success. Such leadership would provide the attention essential for addressing key stewardship responsibilities—such as strategic planning, performance management, business information management, and financial management—in an integrated manner, while helping to facilitate the overall business transformation effort within DOD. As DOD continues to evolve its transformation efforts, critical to successful reform are sustained leadership, organizational structures, and a clear strategic and integrated plan that encompasses all major business areas, including supply chain management.

Completion of a Comprehensive, Integrated Logistics Strategy Could Supplement Business Transformation Efforts

Another key step to supplement ongoing defense business transformation efforts is completion of a comprehensive, integrated logistics strategy that would identify problems and capability gaps to be addressed, establish departmentwide investment priorities, and guide decision making. Over the years, we have recommended that DOD adopt such a strategy, and DOD has undertaken various efforts to identify, and plan for, future logistics needs. However, DOD currently lacks an overarching logistics strategy. In December 2005, DOD issued its "As Is" Focused Logistics Roadmap, which assembled various logistics programs and initiatives associated with the fiscal year 2006 President's Budget and linked them to seven key joint future logistics capability areas. The roadmap identified more than $60 billion of planned investments in these programs and initiatives, yet it also indicated that key focused logistics capabilities would not be achieved by 2015. Therefore, the Under Secretary of Defense for Acquisition, Technology, and Logistics directed the department to prepare a rigorous "To Be" roadmap that would present credible options to achieve focused logistics capabilities.

According to officials with the Office of the Secretary of Defense, the "To Be" logistics roadmap will portray where the department is headed in the logistics area and how it will get there, and will allow the department to monitor progress toward achieving its objectives, as well as institutionalize a continuous assessment process that links ongoing capability development, program reviews, and budgeting. It would identify the scope of logistics problems and capability gaps to be addressed and include specific performance goals, programs, milestones, resources, and metrics to guide improvements in supply chain management and other areas of DOD logistics. Officials anticipate that the initiatives in the supply chain management improvement plan will be incorporated into the "To Be" logistics roadmap.

DOD has not established a target date for completing the "To Be" roadmap. According to DOD officials, its completion is pending the results of the department's ongoing test of new concepts for managing logistics capabilities. The Deputy Secretary of Defense initiated this joint capability portfolio management test in September 2006 to explore new approaches for managing certain capabilities across the department, facilitating strategic choices, and improving the department's ability to make capability trade-offs. The intent of joint capability portfolio management is to improve interoperability, minimize redundancies and gaps, and maximize effectiveness. Joint logistics is one of the four capability areas selected as test cases for experimentation. The joint logistics test case portfolio will include all capabilities required to project and sustain joint force operations, including supply chain operations. According to DOD officials, initial results of the joint logistics capability portfolio management test are expected to be available in late spring 2007, and the results of the test will then be used to complete the "To Be" logistics roadmap. The results of the test are also expected to provide additional focus on improving performance in requirements determination, asset visibility, and materiel distribution, officials said.

We have also noted previously that while DOD and its component organizations have had multiple plans for improving aspects of logistics, the linkages among these plans have not been clearly shown. In addition to the supply chain management improvement plan, current DOD plans that address aspects of supply chain management include the Enterprise Transition Plan and component-level plans developed by the military services and the Defense Logistics Agency. Although we are encouraged by DOD's planning efforts, the department lacks a comprehensive, integrated strategy to guide logistics programs and initiatives across the department.

Without such a strategy, decision makers will lack the means to effectively guide program efforts and the ability to determine if these efforts are achieving the desired results.

DOD Is Unable to Demonstrate the Full Extent of Its Progress Toward Improving Supply Chain Management

Although DOD is making progress implementing supply chain management initiatives, it is unable to demonstrate at this time the full extent to which it is improving supply chain management. DOD has established some high-level performance measures but they do not explicitly address the focus areas, and an improvement in those measures cannot be directly attributed to the initiatives. Further, the metrics in DOD's supply chain management improvement plan generally do not measure performance outcomes and costs.

DOD Is Making Progress Implementing Supply Chain Management Initiatives

In addition to implementing audit recommendations, as discussed in the next section of this report, DOD is making progress improving supply chain management by implementing initiatives in its supply chain management improvement plan. For example, DOD has met key milestones in its Joint Regional Inventory Materiel Management, Radio Frequency Identification, and Item Unique Identification initiatives.

- Through its Joint Regional Inventory Materiel Management initiative, DOD began to streamline the storage and distribution of defense inventory items on a regional basis, in order to eliminate duplicate materiel handling and inventory layers. Last year, DOD completed a pilot for this initiative in the San Diego region and, in January 2006, began a similar transition for inventory items in Oahu, Hawaii, which was considered operational in August 2006.

- In May 2006, DOD published an interim Defense Federal Acquisition Regulation clause governing the application of tags to different classes of assets being shipped to distribution depots and aerial ports for the Radio Frequency Identification initiative.

- The Item Unique Identification initiative, which provides for marking of personal property items with a set of globally unique data items to help DOD value and track items throughout their life cycle, received approval by the International Organization for Standardization/International Electrotechnical Commission in September 2006 for an interoperable solution for automatic identification and data capture based on widely used international standards.

DOD has sought to demonstrate significant improvement in supply chain management within 2 years of the plan's inception in July 2005; however, the department may have difficulty meeting its July 2007 goal. Some of the initiatives are still being developed or piloted and have not yet reached the implementation stage, others are in the early stages of implementation, and some are not scheduled for completion until 2008 or later. For example, according to DOD's plan, the Readiness Based Sparing initiative, an inventory requirements methodology that the department expects will enable higher levels of readiness at equivalent or reduced inventory costs using commercial off-the-shelf software, is not expected to begin implementation until January 2008. The Item Unique Identification initiative, which involves marking personal property items with a set of globally unique data elements to help DOD track items during their life cycles, will not be completed until December 2010 under the current schedule.

While DOD has generally stayed on track, it has reported some slippage in meeting scheduled milestones for certain initiatives. For example, a slippage of 9 months occurred in the Commodity Management initiative because additional time was required to develop a departmentwide approach. This initiative addresses the process of developing a systematic procurement approach to the department's needs for a group of items. Additionally, according to DOD's plan, the Defense Transportation Coordination initiative experienced a slippage in holding the presolicitation conference because defining requirements took longer than anticipated.[12] Given the long-standing nature of the problems being addressed, the complexities of the initiatives, and the involvement of multiple organizations within DOD, we would expect to see further milestone slippage in the future.

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[12] A bid protest has been filed with GAO concerning the terms of the solicitation.

DOD's Supply Chain Management Plan Does Not Track Performance Outcomes and Costs Metrics Associated with Focus Areas and Initiatives

The supply chain management improvement plan generally lacks outcome-focused performance metrics that track progress in the three focus areas and at the initiative level. Performance metrics are critical for demonstrating progress toward achieving results, providing information on which to base organizational and management decisions, and are important management tools for all levels of an agency, including the program or project level. Moreover, outcome-focused performance metrics show results or outcomes related to an initiative or program in terms of its effectiveness, efficiency, impact, or all of these. To track progress toward goals, effective performance metrics should have a clearly apparent or commonly accepted relationship to the intended performance, or should be reasonable predictors of desired outcomes; are not unduly influenced by factors outside a program's control; measure multiple priorities, such as quality, timeliness, outcomes, and cost; sufficiently cover key aspects of performance; and adequately capture important distinctions between programs. Performance metrics enable the agency to assess accomplishments, strike a balance among competing interests, make decisions to improve program performance, realign processes, and assign accountability. While it may take years before the results of programs become apparent, intermediate metrics can be used to provide information on interim results and show progress towards intended results. In addition, when program results could be influenced by external factors, intermediate metrics can be used to identify the program's discrete contribution to the specific result.

DOD's plan does include four high-level performance measures that are being tracked across the department, and while they are not required to do so, these measures do not explicitly relate to the focus areas. The four measures are as follows:

- Backorders—number of orders held in an unfilled status pending receipt of additional parts or equipment through procurement or repair.
- Customer wait time—number of days between the issuance of a customer order and satisfaction of that order.
- On-time orders—percentage of orders that are on time according to DOD's established delivery standards.

- Logistics response time—number of days to fulfill an order placed on the wholesale level of supply from the date a requisition is generated until the materiel is received by the retail supply activity.

Additionally, these measures may be affected by many variables; hence, improvements in the high-level performance measures cannot be directly attributed to the initiatives in the plan. For example, implementing RFID at a few sites at a time has only a very small impact on customer wait time. However, variables such as natural disasters, wartime surges in requirements, or disruption in the distribution process could affect that measure. DOD's supply chain materiel management regulation requires that functional supply chain metrics support at least one enterprise-level metric.[13]

DOD's plan also lacks outcome-focused performance metrics for 6 of the 10 specific improvement initiatives contained in the plan. For example, while DOD intended to have RFID implemented at 100 percent of its U.S. and overseas distribution centers by September 2007—a measure indicating when scheduled milestones are met—it had not yet identified outcome-focused performance metrics that could be used to show the impact of implementation on expected outcomes, such as receiving and shipping timeliness, asset visibility, or supply consumption data. Two other examples of improvement initiatives that lack outcome-focused performance metrics are War Reserve Materiel, which aims to more accurately forecast war reserve requirements by using capability-based planning and incorporating lessons learned in Operation Iraqi Freedom, and Joint Theater Logistics, which is an effort to improve the ability of a joint force commander to execute logistics authorities and processes within a theater of operations.

One of the challenges in developing departmentwide supply chain performance measures, according to a DOD official, is obtaining standardized, reliable data from noninteroperable systems. For example, the Army currently does not have an integrated method to determine receipt processing for Supply Support Activities, which could affect asset visibility and distribution concerns. Some of the necessary data reside in the Global Transportation Network while other data reside in the Standard Army Retail Supply System. These two databases must be manually reviewed and merged in order to obtain the information for accurate receipt processing performance measures. Nevertheless, we believe that intermediate measures, such as outcome-focused measures for each of the initiatives or for the focus areas, could show near-term progress.

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[13] DOD 4140.1-R, *DOD Supply Chain Materiel Management Regulation* (May 23, 2003).

According to a DOD official, in September 2006, DOD awarded a year-long supply chain benchmarking contract to assess commercial supply chain metrics. The official indicated that six outcome measures were chosen for the initial effort: on-time delivery, order fulfillment cycle time, perfect order fulfillment, supply chain management costs, inventory days of supply, and forecast accuracy. Furthermore, the specific supply chains to be reviewed will be recommended by the various DOD components and approved by an executive committee. According to the same DOD official, the contractor will be looking at the specific supply chains approved and the industry equivalent; and a set of performance scorecards mapping the target supply segment to average and best-in-class performance from the comparison population will be developed for each supply chain and provided to the component. This assessment is a good step but it is too early to determine the effectiveness of this effort in helping DOD to demonstrate progress toward improving its supply chain management.

Further, we noted that DOD has not provided cost metrics that might show efficiencies gained through supply chain improvement efforts. In addition to improving the provision of supplies to the warfighter and improving readiness of equipment, DOD's stated goal in its supply chain management improvement plan is to reduce or avoid costs. However, 9 of the 10 initiatives in the plan lack cost metrics. Without outcome-focused performance and cost metrics for each of the improvement initiatives that are linked to the focus areas, such as requirements forecasting, asset visibility, and materiel distribution, it is unclear whether DOD is progressing toward meeting its stated goal.

DOD Has Implemented Recommendations for Improving Aspects of Supply Chain Management

Over the last 5 years, audit organizations have made more than 400 recommendations that focused specifically on improving certain aspects of DOD's supply chain management. DOD or the component organization concurred with almost 90 percent of these recommendations, and most of the recommendations that were closed as of the time of our review were considered implemented. We determined that the three focus areas of requirements forecasting, asset visibility, and materiel distribution accounted for 41 percent of the total recommendations made, while other inventory management and supply chain issues accounted for the remaining recommendations. We also grouped the recommendations into five common themes—management oversight, performance tracking, policy, planning, and processes. Several studies conducted by non-audit organizations have made recommendations that address supply chain management as part of a broader review of DOD logistics.

Appendixes I through V summarize the audit recommendations we included in our baseline. Appendix VI summarizes recommendations made by non-audit organizations.

DOD or the Component Organization Concurred with Most of the Recommendations

In developing a baseline of supply chain management recommendations, we identified 478 supply chain management recommendations made by audit organizations between October 2001 and September 2006. DOD or the component organization concurred with 411 (86 percent) of the recommendations; partially concurred with 44 recommendations (9 percent); and nonconcurred with 23 recommendations (5 percent).

These recommendations cover a diverse range of objectives and issues concerning supply chain management. For example, one recommendation with which DOD concurred was contained in our 2006 report on production and installation of Marine Corps truck armor. To better coordinate decisions about what materiel solutions are developed and procured to address common urgent wartime requirements, we recommended—and DOD concurred—that DOD should clarify the point at which the Joint Urgent Operational Needs process should be utilized when materiel solutions require research and development.[14]

In another case, DOD partially concurred with a recommendation in our 2006 report on Radio Frequency Identification (RFID), which consists of electronic tags that are attached to equipment and supplies being shipped from one location to another, enabling shipment tracking. To better track and monitor the use of RFID tags, we recommended—and DOD partially concurred—that the secretaries of each military service and the administrators of other components should determine requirements for the number of tags needed, compile an accurate inventory of the number of tags currently owned, and establish procedures to monitor and track tags, including purchases, reuse, losses, and repairs.[15] In its response to our report, DOD agreed to direct the military services and the U.S. Transportation Command to develop procedures to address the reuse of the tags as well as procedures for the return of tags no longer required. However, the department did not agree to establish procedures to account for the procurement, inventory, repair, or losses of existing tags in the system.

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[14] GAO, *Defense Logistics: Lack of a Synchronized Approach between the Marine Corps and Army Affected the Timely Production and Installation of Marine Corps Truck Armor*, GAO-06-274 (Washington, D.C.: June 22, 2006).

On the other hand, an example of a recommendation that DOD did not concur with was contained in our 2005 report on supply distribution operations. To improve the overall efficiency and interoperability of distribution-related activities, we recommended—but DOD did not concur—that the Secretary of Defense should clarify the scope of responsibilities, accountability, and authority between U.S. Transportation Command's role as DOD's Distribution Process Owner and other DOD components.[16] In its response to our report, DOD stated that the responsibilities, accountability, and authority of this role were already clear.

Most Closed Recommendations Were Considered Implemented

The audit organizations had closed 315 (66 percent) of the 478 recommendations at the time we conducted our review. Of the closed recommendations, 275 (87 percent) were implemented and 40 (13 percent) were not implemented as reported by the audit agencies. For example, one closed recommendation that DOD implemented was in our 2005 report on oversight of prepositioning programs. To address the risks and management challenges facing the department's prepositioning programs and to improve oversight, we recommended that the Secretary of Defense direct the Chairman, Joint Chiefs of Staff assess the near-term operational risks associated with current inventory shortfalls and equipment in poor condition should a conflict arise.[17] In response to our recommendation, the Joint Staff conducted a mission analysis on several operational plans based on the readiness of prepositioned assets. On the other hand, an example of a closed recommendation that DOD did not implement was in our 2003 report on Navy spare parts shortages. To provide a basis for management to assess the extent to which ongoing and planned initiatives will contribute to the mitigation of critical spare parts shortages, we recommended that the Secretary of Defense direct the Secretary of the Navy to develop a framework that includes long-term goals; measurable, outcome-related objectives; implementation goals; and performance measures as a part of either the Navy Sea Enterprise strategy or the Naval Supply Systems Command Strategic Plan. DOD agreed with the intent of the recommendation, but not the prescribed action. The recommendation was closed but not implemented because the Navy did not plan to modify the Naval Supply Systems Command Strategic Plan or higher-level Sea Enterprise Strategy to include a specific focus on mitigating spare parts shortages.[18]

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[15] GAO, *Defense Logistics: More Efficient Use of Active RFID Tags Could Potentially Avoid Millions in Unnecessary Purchases*, GAO-06-366R (Washington, D.C.: Mar. 8, 2006).

[16] GAO, *Defense Logistics: DOD Has Begun to Improve Supply Distribution Operations, but Further Actions Are Needed to Sustain These Efforts*, GAO-05-775 (Washington, D.C.: Aug. 11, 2005).

Recommendations to Improve Supply Chain Management Address Five Common Themes

Audit recommendations addressing the three focus areas in DOD's supply chain management improvement plan—requirements forecasting, asset visibility, and materiel distribution—accounted for 196 (41 percent) of the total recommendations. The fewest recommendations were made in the focus area of distribution, accounting for just 6 percent of the total. Other inventory management issues accounted for most of the other recommendations. In addition, a small number of recommendations, less than 1 percent of the total, addressed supply chain management issues that could not be grouped under any of these other categories. In further analyzing the recommendations, we found that they addressed five common themes—management oversight, performance tracking, policy, planning, and processes. Table 1 shows the number of audit recommendations made by focus area and theme.

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[17] GAO, *Defense Logistics: Better Management and Oversight of Prepositioning Programs Needed to Reduce Risk and Improve Future Programming*, GAO-05-427 (Washington, D.C.: Sept. 6, 2005).

[18] GAO, *Defense Inventory: Navy Logistics Strategy And Initiatives Need To Address Spare Parts Shortages*, GAO-03-708 (Washington, D.C.: June 27, 2003).

Table 1: Audit Recommendations to Improve Supply Chain Management

	Management oversight	Performance tracking	Policy	Planning	Processes	Total
Recommendations addressing focus areas in DOD's supply chain management plan						
Requirements forecasting	24	0	25	6	41	**96**
Asset visibility	27	5	15	7	19	**73**
Materiel distribution	10	3	7	1	6	**27**
Subtotal	**61**	**8**	**47**	**14**	**66**	**196**
Recommendations addressing other inventory management issues	82	9	56	17	114	**278**
Recommendations addressing other supply chain issues[a]	1	0	0	3	0	4
Total	**144**	17	103	34	180	478

Source: GAO analysis.

[a] These recommendations address aspects of supply chain management that could not be grouped into one of the three focus areas or as inventory management.

Most of the recommendations addressed processes (38 percent), management oversight (30 percent), or policy (22 percent), with comparatively fewer addressing planning (7 percent) and performance tracking (4 percent). The management oversight theme includes any recommendations involving compliance, conducting reviews, or providing information to others. For example, the Naval Audit Service recommended that the Office of the Commander, U.S. Fleet Forces Command should enforce existing requirements that ships prepare and submit Ship Hazardous Material List Feedback Reports and Allowance Change Requests, whenever required.[19] The performance tracking theme includes recommendations with performance measures, goals, objectives, and milestones. For example, the Army Audit Agency recommended that funding for increasing inventory safety levels be withheld until the Army Materiel Command develops test procedures and identifies key performance indicators to measure and assess its cost-effectiveness and impact on operational readiness.[20] The policy theme contains recommendations on issuing guidance, revising or establishing policy, and establishing guidelines. For example, the DOD-IG recommended that the Defense Logistics Agency revise its supply operating procedures to meet specific requirements.[21] The planning theme contains recommendations related to plan, doctrine, or capability development or implementation, as well as any recommendations related to training. For example, the Army Audit Agency recommended the Defense Supply Center in Philadelphia implement a Quality Assurance Surveillance Plan that encompasses all requirements of the prime vendor contract.[22] The largest theme, processes, consists of recommendations that processes and procedures should be established or documented, and recommendations be implemented. For example, we recommended that the Secretary of Defense direct the service secretaries to establish a process to share information between the Marine Corps and Army on developed or developing materiel solutions.[23]

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[19] Naval Audit Service, *Hazardous Material Inventory Requirements Determination and Offloads on Aircraft Carriers and Amphibious Assault Ships*, N2005-0027 (Feb. 17, 2005).

Non-audit Organizations' Recommendations Address Supply Chain Management as Part of a Broader Review of DOD Logistics

Studies conducted by non-audit organizations contain recommendations that address supply chain management as part of a broader review of DOD logistics. For example, the Center for Strategic and International Studies and the Defense Science Board suggested the creation of a departmentwide logistics command responsible for end-to-end supply chain operations. In July 2005, the Center for Strategic and International Studies issued a report, "Beyond Goldwater-Nichols: U.S. Government and Defense Reform for a New Strategic Era," which addressed the entire U.S. national security structure, including the organization of logistics support. In this report, the study team acknowledged that recent steps, such as strengthening joint theater logistics and the existence of stronger coordinating authorities have significantly increased the unity of effort in logistical support to ongoing operations. However, according to the study, much of this reflects the combination of exemplary leadership and the intense operational pull of Operation Iraqi Freedom, and has not been formalized and institutionalized by charter, doctrine, or organizational realignment. It further noted that the fact that a single Distribution Process Owner was needed to overcome the fragmented structure of DOD's logistical system underscores the need for fundamental reform. The study team recommended the integration of the management of transportation and supply warehousing functions under a single organization such as an integrated logistics command. The report noted that the Commission on Roles and Missions also had recommended the formation of a logistics command back in 1995.

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[20] Army Audit Agency, *Increasing Safety Levels for Spare Parts, Office of the Deputy Chief of Staff, G-4*, A-2006-0063-ALR (Jan. 31, 2006).

[21] DOD-IG, *Logistics: Defense Logistics Agency Processing of Other Nonrecurring Requirements*, D-2004-018 (Nov. 7, 2003).

[22] Army Audit Agency, *Subsistence Prime Vendor Contract, Audit of Logistics Civil Augmentation Program*, A-2006-0168-ALL (Aug. 4, 2006).

[23] GAO-06-274.

In 2005, the Summer Study Task Force on Transformation, under the direction of the Under Secretary of Defense for Acquisition, Technology, and Logistics, convened to assess DOD's transformation progress, including the transformation of logistics capabilities. In this assessment, issued in February 2006, the Defense Science Board suggested that each segment in the supply chain is optimized for that specific function. For example, in the depot shipping segment of the supply chain, packages are consolidated into truck-size loads in order to fill the trucks for efficiency. Yet, optimizing each segment inevitably suboptimizes the major objective of end-to-end movement from source to user. The Defense Science Board report further indicated that although the assignment of the U.S. Transportation Command as the Distribution Process Owner was an important step towards addressing an end-to-end supply change, it did not go far enough to meet the objective of an effective supply chain. The necessary step is to assign a joint logistics command the authority and accountability for providing this essential support to global operations.

Unlike recommendations made by audit agencies, DOD does not systematically track the status of recommendations made by non-audit organizations. Hence, in our analysis, we did not determine the extent to which DOD concurred with or implemented recommendations from these organizations.

Conclusions

Overcoming systemic, long-standing problems requires comprehensive approaches. Improving DOD's supply chain management will require continued progress in defense business transformation, including completion of a comprehensive, integrated strategy to guide the department's logistics programs and initiatives. In addition, while DOD has made a commitment to improving supply chain management, as demonstrated by the development and implementation of the supply chain management improvement plan, the plan generally lacks outcome-focused performance metrics that would enable DOD to track and demonstrate the extent to which its individual efforts improve supply chain management or the extent of improvement in the three focus areas of requirements forecasting, asset visibility, and materiel distribution. Furthermore, without cost metrics, it will be difficult to show efficiencies gained through supply chain improvement initiatives.

Recommendations for Executive Action

To improve DOD's ability to guide logistics programs and initiatives across the department and to demonstrate the effectiveness, efficiency, and impact of its efforts to resolve supply chain management problems, we recommend that the Secretary of Defense direct the Under Secretary of Defense for Acquisition, Technology, and Logistics to take the following two actions:

Complete the development of a comprehensive, integrated logistics strategy that is aligned with other defense business transformation efforts, including the Enterprise Transition Plan. To facilitate completion of the strategy, DOD should establish a specific target date for its completion. Further, DOD should take steps as appropriate to ensure the supply chain management improvement plan and component-level logistics plans are synchronized with the department's overall logistics strategy.

Develop, implement, and monitor outcome-focused performance and cost metrics for all the individual initiatives in the supply chain management improvement plan as well as for the plan's focus areas of requirements forecasting, asset visibility, and materiel distribution.

Agency Comments and Our Evaluation

In its written comments on a draft of this report, DOD concurred with our recommendations. The department's response are reprinted in appendix VII.

In response to our recommendation to complete the development of a comprehensive, integrated logistics strategy, DOD stated that the strategy is under development and is aligned with other defense business transformation efforts. DOD estimated that the logistics strategy would be completed 6 months after it completes the logistics portfolio test case in the spring of 2007. DOD did not address whether it would take steps to ensure the supply chain management improvement plan and component-level logistics plans are synchronized with the department's overall logistics strategy. We continue to believe that these plans must be synchronized with the overall logistics strategy to effectively guide program efforts across the department and to provide the means to determine if these efforts are achieving the desired results.

In response to our recommendation to develop, implement, and monitor outcome-focused performance and cost metrics, the department indicated it has developed and implemented outcome-focused performance and cost metrics for logistics across the department. However, DOD acknowledged that more work needs to be accomplished in linking the outcome metrics to the initiatives in the supply chain management improvement plan as well as for the focus areas of requirements forecasting, asset visibility, and materiel distribution. DOD stated that these linkages will be completed as part of full implementation of each initiative. We are pleased that the department recognized the need for linking outcome-focused metrics with the individual initiatives and the three focus areas in its supply chain management improvement plan. However, it is unclear from DOD's response how and under what timeframes the department plans to implement this goal. As we noted in the report, DOD lacks outcome-focused performance metrics for supply chain management, in part because one of the challenges is obtaining standardized, reliable data from noninteroperable systems. In addition, initiatives in the supply chain management plan are many years away from full implementation. If DOD waits until full implementation to incorporate outcome-based metrics, it will miss opportunities to assess progress on an interim basis. We also continue to believe that cost metrics are critical for DOD to assess progress toward meeting its stated goal of improving the provision of supplies to the warfighter and improving readiness of equipment while reducing or avoiding costs through its supply chain initiatives.

Scope and Methodology

Our discussion of the integration of supply chain management with broader defense transformation efforts is based primarily on our prior reports and testimonies. We obtained information on DOD's "To Be" logistics roadmap and the joint logistics capabilities portfolio management test from senior officials in the Office of the Deputy Under Secretary of Defense for Logistics, Materiel, and Readiness. We met regularly with DOD and OMB officials to discuss the overall status of the supply chain management improvement plan, the implementation schedules of the plan's individual initiatives, and the plan's performance measures. We visited and interviewed officials from U.S. Transportation Command, the Defense

Logistics Agency, the military services, and the Joint Staff to gain their perspectives on improving supply chain management.

To develop a baseline of recommended supply chain management improvements, we surveyed audit reports covering the time period of October 2001 to September 2006. We selected this time period because it corresponds with recent military operations that began with the onset of Operation Enduring Freedom and, later, Operation Iraqi Freedom. We surveyed audit reports issued by our office, the DOD-IG, the Army Audit Agency, the Naval Audit Service, and the Air Force Audit Agency.

For each audit recommendation contained in these reports, we determined its status and focus. To determine the status of GAO recommendations, we obtained data from our recommendation tracking system. We noted whether DOD concurred with, partially concurred with, or did not concur with each recommendation. In evaluating agency comments on our reports, we have noted instances where DOD agreed with the intent of a recommendation but did not commit to taking any specific actions to address it. For the purposes of this report, we counted these as concurred recommendations. We also noted whether the recommendation was open, closed and implemented, or closed and not implemented. In a similar manner, we worked with DOD-IG and the service audit agencies to determine the status of their recommendations. We verified with each of the audit organizations that they agreed with our definition that a recommendation is considered "concurred with" when the audit organization determines that DOD or the component organization fully agreed with the recommendation in it entirety and its prescribed actions, and "partially concurred with" is when the audit organization determines that DOD or the component organization agreed to parts of the recommendation or parts of its prescribed actions. Furthermore, we verified that a recommendation is officially "closed" when the audit organization determines that DOD or the component organization has implemented its provisions or otherwise met the intent of the recommendation; when circumstances have changed, and the recommendation is no longer valid; or when, after a certain amount of time, the audit organization determines that implementation cannot reasonably be expected. We also verified that an "open" recommendation is one that has not been closed for one of the preceding reasons. We assessed the reliability of the data we obtained from DOD-IG and the service audit agencies by obtaining information on how they track and follow up on recommendations and determined that their data were sufficiently reliable for our purposes.

In analyzing the focus of recommendations, we identified those addressing three specific areas—requirements forecasting, asset visibility, and materiel distribution—as well those addressing other supply chain management concerns. We selected these three focus areas as the framework for our analysis based on our prior work in this high-risk area and because DOD has structured its supply chain management improvement plan around them. We then analyzed the recommendations and further divided them into one of five common themes: management oversight, performance tracking, planning, process, and policy. To identify the focus area and theme for each report and recommendation, three analysts independently labeled each report with a focus area and identified a theme for each recommendation within the report. The team of analysts then reviewed the results, discussed any discrepancies, and reached agreement on the appropriate theme for each recommendation. In the event of a discrepancy which could not be immediately resolved, we referred to the original report to clarify what the intent of the report had been in order to decide on the appropriate focus area and theme. For the purpose of our analysis, if a recommendation consisted of multiple actions, we counted and classified each action separately. We excluded from our analysis recommendations that addressed only a specific piece of equipment or system. We also excluded recommendations that addressed other DOD high-risk areas, such as business systems modernization and financial management. While we included recommendations by non-audit organizations in our analysis, we did not determine the extent to which DOD concurred with or implemented them because their status is not systemically tracked.

We conducted our review from January through November 2006 in accordance with generally accepted government auditing standards.

We are sending copies of this report to the Director, Office of Management and Budget; the Secretary of Defense; the Deputy Secretary of Defense; the Under Secretary of Defense for Acquisition, Technology, and Logistics; and other interested parties. This report will also be available at no charge on our Web site at http://www.gao.gov.

Should you or your staff have any questions concerning this report, please contact me at (202) 512-8365 or solisw@gao.gov. Key contributors to this report are listed in appendix VIII.

William M. Solis
Director
Defense Capabilities and Management

Appendix I

Supply Chain Management: Summary of GAO Report Recommendations

Report title, number, date	Recommendations	
Defense Logistics: Lack of a Synchronized Approach between the Marine Corps and Army Affected the Timely Production and Installation of Marine Corps Truck Armor (GAO-06-274, June 22, 2006)	To ensure that the services make informed and coordinated decisions about what materiel solutions are developed and procured to address common urgent wartime requirements, GAO recommended that the Secretary of Defense take the following two actions:	(1) Direct the service secretaries to establish a process to share information between the Marine Corps and the Army on developed or developing materiel solutions, and
		(2) Clarify the point at which the Joint Urgent Operational Needs process should be utilized when materiel solutions require research and development.
Defense Management: Attention Is Needed to Improve Oversight of DLA Prime Vendor Program (GAO-06-739R, June 19, 2006)		GAO recommended that the Secretary of Defense direct the Under Secretary of Defense, Acquisition, Technology and Logistics to ensure that the Director of the Defense Logistics Agency provide continual management oversight of the corrective actions to address pricing problems in the prime vendor program.
Defense Inventory: Actions Needed to Improve Inventory Retention Management (GAO-06-512, May 25, 2006)	GAO recommended that the Secretary of Defense take the following seven actions: To ensure DOD inventory management centers properly assign codes to categorize the reasons to retain items in contingency retention inventory, direct the Under Secretary of Defense for Acquisition, Technology, and Logistics to:	(1) Direct the Secretary of the Army to instruct the Army Materiel Command to modify the Commodity Command Standard System so it will properly categorize the reasons for holding items in contingency retention inventory.
		(2) Direct the Secretary of the Air Force to instruct the Air Force Materiel Command to correct the Application Programs, Indenture system's deficiency to ensure it properly categorizes the reasons for holding items in contingency retention inventory.
	To ensure that the DOD inventory management centers retain contingency retention inventory that will meet current and future operational requirements, direct the Under Secretary of Defense for Acquisition, Technology, and Logistics to:	(3) Direct the Secretary of the Army to instruct the Army Materiel Command to require the Aviation and Missile Command to identify items that no longer support operational needs and determine whether the items need to be removed from the inventory. The Army Materiel Command should also determine whether its other two inventory commands, the Communications-Electronics Command and Tank-automotive and Armaments Command, are also holding obsolete items, and if so, direct those commands to determine whether the disposal of those items is warranted.

Focus area	Theme	Status of recommendations
Requirements forecasting	Process	Partially concurred, open
	Process	Concurred, open
Inventory management	Management oversight	Concurred, open
Inventory management	Process	Partially concurred, open
	Process	Concurred, open
	Process	Concurred, open

(Continued From Previous Page)

Report title, number, date	Recommendations	
	To ensure that DOD inventory management centers conduct annual reviews of contingency retention inventory as required by DOD's Supply Chain Materiel Management Regulation, direct the Under Secretary of Defense for Acquisition, Technology, and Logistics to:	(4) Direct the Director of the Defense Logistics Agency to require the Defense Supply Center Richmond to conduct annual reviews of contingency retention inventory. The Defense Logistics Agency should also determine whether its other two centers, the Defense Supply Center Columbus and the Defense Supply Center Philadelphia, are conducting annual reviews, and if not, direct them to conduct the reviews so they can ensure the reasons for retaining the contingency retention inventory are valid.
		(5) Direct the Secretary of the Navy to instruct the Naval Inventory Control Point Mechanicsburg to conduct annual reviews of contingency retention inventory. The Naval Inventory Control Point should also determine if its other organization, Naval Inventory Control Point Philadelphia, is conducting annual reviews and if not, direct the activity to conduct the reviews so it can ensure the reasons for retaining the contingency retention inventory are valid.
		(6) Direct the Secretary of the Army to instruct the Army Materiel Command to require the Aviation and Missile Command to conduct annual reviews of contingency retention inventory. The Army Materiel Command should also determine if its other two inventory commands, the Communications-Electronics Command and Tank-automotive and Armaments Command, are conducting annual reviews and if not, direct the commands to conduct the reviews so they can ensure the reasons for retaining the contingency retention inventory are valid.
	To ensure that DOD inventory management centers implement departmentwide policies and procedures for conducting annual reviews of contingency retention inventories, direct the Office of the Deputy Under Secretary of Defense for Logistics and Materiel Readiness to take the following action:	(7) Revise the DOD's Supply Chain Materiel Management Regulation to make clear who is responsible for providing recurring oversight to ensure the inventory management centers conduct the annual reviews of contingency retention inventory.
Defense Logistics: Several Factors Limited the Production and Installation of Army Truck Armor during Current Wartime Operations (GAO-06-160, March 22, 2006)		To ensure funding needs for urgent wartime requirements are identified quickly, requests for funding are well documented, and funding decisions are based on risk and an assessment of the highest priority requirements, GAO recommended the Secretary of Defense direct the Secretary of the Army to establish a process to document and communicate all urgent wartime funding requirements for supplies and equipment at the time they are identified and the disposition of funding decisions.

Focus area	Theme	Status of recommendations
	Management oversight	Concurred, open
	Management oversight	Concurred, open
	Management oversight	Concurred, open
	Policy	Concurred, open
Requirements forecasting	Process	Concurred with intent, open

(Continued From Previous Page)

Report title, number, date	Recommendations	
Defense Logistics: More Efficient Use of Active RFID Tags Could Potentially Avoid Millions in Unnecessary Purchases (GAO-06-366R, March 8, 2006)	GAO recommended that the Secretary of Defense direct the Under Secretary of Defense (Acquisition, Technology, and Logistics) to take the following two actions:	(1) Modify the July 30, 2004, RFID policy and other operational guidance to require that active RFID tags be returned for reuse or be reused by the military services and other users.
		(2) Direct the secretaries of each military service and administrators of other components to establish procedures to track and monitor the use of active RFID tags, to include • determining requirements for the number of tags needed, • compiling an accurate inventory of the number of tags currently owned, and • establishing procedures to monitor and track tags, including purchases, reuse, losses, repairs, and any other categories that would assist management's oversight of these tags.
Defense Inventory: Army Needs to Strengthen Internal Controls for Items Shipped to Repair Contractors (GAO-06-209, December 13, 2005)	To improve accountability of inventory shipped to Army repair contractors, GAO recommended that the Secretary of Defense direct the Secretary of the Army to instruct the Commanding General, Army Materiel Command, to take the following six actions:	(1) Establish systematic procedures to obtain and document contractors' receipt of secondary repair item shipments in the Army's inventory management systems, and to follow up on unconfirmed receipts within 45 days of shipment.
		(2) Institute policies, consistent with DOD regulations, for obtaining and documenting contractors' receipt of government-furnished materiel shipments in the Army's inventory management systems.
		(3) Provide quarterly status reports of all shipments of Army government-furnished materiel to Defense Contract Management Agency, in compliance with DOD regulations.
		(4) Examine the feasibility of implementing DOD guidance for providing advance notification to contractors at the time of shipment and, if warranted, establish appropriate policies and procedures for implementation.
		(5) Analyze receipt records for secondary repair items shipped to contractors and take actions necessary to update and adjust inventory management data prior to transfer to the Logistics Modernization Program. These actions should include investigating and resolving shipments that lack matching receipts to determine their status.
		(6) To ensure consistent implementation of any new procedures arising from the recommendations in this report, provide periodic training to appropriate inventory control point personnel and provide clarifying guidance concerning these new procedures to the command's repair contractors.

Focus area	Theme	Status of recommendations
Asset visibility	Policy	Concurred, open
	Process	Partially concurred, open
Inventory management	Process	Concurred, open
	Policy	Concurred, open
	Management oversight	Concurred, open
	Policy	Concurred, open
	Process	Concurred, open
	Planning	Concurred, open

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Report title, number, date	**Recommendations**	
Defense Logistics: DOD Has Begun to Improve Supply Distribution Operations, but Further Actions Are Needed to Sustain These Efforts (GAO-05-775, August 11, 2005)	To enhance DOD's ability to take a more coordinated and systemic approach to improving the supply distribution system, GAO recommended that the Secretary of Defense take the following three actions:	(1) Clarify the scope of responsibilities, accountability, and authority between the Distribution Process Owner and the Defense Logistics Executive as well as the roles and responsibilities between the Distribution Process Owner, the Defense Logistics Agency, and Joint Forces Command.
		(2) Issue a directive instituting these decisions and make other related changes, as appropriate, in policy and doctrine.
		(3) Improve the Logistics Transformation Strategy by directing the Under Secretary of Defense (Acquisition, Technology, and Logistics) to include specific performance goals, programs, milestones, and resources to achieve focused logistics capabilities in the Focused Logistics Roadmap.
		To address the current underfunding of the Very Small Aperture Terminal and the Mobile Tracking System, GAO recommended that the Secretary of Defense direct the Secretary of the Army to determine whether sufficient funding priority has been be given to the acquisition of these systems and, if not, to take appropriate corrective action.
Defense Logistics: Better Management and Oversight of Prepositioning Programs Needed to Reduce Risk and Improve Future Programs (GAO-05-427, September 6, 2005)	To address the risks and management challenges facing the department's prepositioning programs and improve oversight, GAO recommended that the Secretary of Defense take the following five actions:	(1) Direct the Chairman, Joint Chiefs of Staff, to assess the near-term operational risks associated with current inventory shortfalls and equipment in poor condition should a conflict arise.
		(2) Direct the Under Secretary of Defense for Acquisition, Technology, and Logistics to provide oversight over the department's prepositioning programs by fully implementing the department's directive on war reserve materiel and, if necessary, revise the directive to clarify the lines of accountability for this oversight.
		(3) Direct the Secretary of the Army to improve the processes used to determine requirements and direct the Secretary of the Army and Air Force to improve the processes used to determine the reliability of inventory data so that the readiness of their prepositioning programs can be reliably assessed and proper oversight over the programs can be accomplished.
		(4) Develop a coordinated departmentwide plan and joint doctrine for the department's prepositioning programs that identifies the role of prepositioning in the transformed military and ensures these programs will operate jointly, support the needs of the war fighter, and are affordable.
		(5) Report to Congress, possibly as part of the mandated October 2005 report, how the department plans to manage the near-term operational risks created by inventory shortfalls and management and oversight issues described in this report.

Focus area	Theme	Status of recommendations
Materiel distribution	Management oversight	Nonconcurred, open
	Policy	Nonconcurred, open
	Performance tracking	Concurred, open
	Process	Concurred, open
Inventory management	Process	Partially concurred, closed, implemented
	Management oversight	Partially concurred, open
	Process	Partially concurred, open
	Planning	Partially concurred, open
	Management oversight	Concurred, open

(Continued From Previous Page)

Report title, number, date	Recommendations	
Defense Logistics: Better Strategic Planning Can Help Ensure DOD's Successful Implementation of Passive Radio Frequency Identification (GAO-05-345, September 12, 2005)	GAO recommend that the Secretary of Defense take the following three actions:	(1) Direct the Under Secretary of Defense (Acquisition, Technology, and Logistics) to expand its current RFID planning efforts to include a DOD-wide comprehensive strategic management approach that will ensure that RFID technology is efficiently and effectively implemented throughout the department. This strategic management approach should incorporate the following key management principles: • an integrated strategy with goals, objectives, and results for fully implementing RFID in the DOD supply chain process, to include the interoperability of automatic information systems; • a description of specific actions needed to meet goals and objectives; • performance measures or metrics to evaluate progress toward achieving the goals; • schedules and milestones for meeting deadlines; • identification of total RFID resources needed to achieve full implementation; and • an evaluation and corrective action plan.
		(2) Direct the secretaries of each military service and administrators of other DOD military components to develop individual comprehensive strategic management approaches that support the DOD-wide approach for fully implementing RFID into the supply chain processes.
		(3) Direct the Under Secretary of Defense (Acquisition, Technology, and Logistics), the secretaries of each military service, and administrators of other military components to develop a plan that identifies the specific challenges impeding passive RFID implementation and the actions needed to mitigate these challenges. Such a plan could be included in the strategic management approach that GAO recommended they develop.
Defense Logistics: Actions Needed to Improve the Availability of Critical Items during Current and Future Operations (GAO-05-275, April 8, 2005)	To improve the effectiveness of DOD's supply system in supporting deployed forces for contingencies, GAO recommended that the Secretary of Defense direct the Secretary of the Army to take the following three actions and specify when they will be completed:	(1) Improve the accuracy of Army war reserve requirements and transparency about their adequacy by: • updating the war reserve models with OIF consumption data that validate the type and number of items needed, • modeling war reserve requirements at least annually to update the war reserve estimates based on changing operational and equipment requirements, and • disclosing to Congress the impact on military operations of its risk management decision about the percentage of war reserves being funded.

Focus area	Theme	Status of recommendations
Asset visibility	Planning	Nonconcurred, open
	Planning	Concurred, open
	Planning	Nonconcurred, open
Requirements forecasting	Process	Concurred with intent, open

(Continued From Previous Page)

Report title, number, date	Recommendations	
		(2) Improve the accuracy of its wartime supply requirements forecasting process by: • developing models that can compute operational supply requirements for deploying units more promptly as part of prewar planning and • providing item managers with operational information in a timely manner so they can adjust modeled wartime requirements as necessary.
		(3) Reduce the time delay in granting increased obligation authority to the Army Materiel Command and its subordinate commands to support their forecasted wartime requirements by establishing an expeditious supply requirements validation process that provides accurate information to support timely and sufficient funding.
		(4) GAO also recommended that the Secretary of Defense direct the Secretary of the Navy to improve the accuracy of the Marine Corps' wartime supply requirements forecasting process by completing the reconciliation of the Marine Corps' forecasted requirements with actual OIF consumption data to validate the number as well as types of items needed and making necessary adjustments to their requirements. The department should also specify when these actions will be completed.
	GAO recommended that the Secretary of Defense direct the Secretary of the Army and Director of the Defense Logistics Agency to take the following two actions:	(5) Minimize future acquisition delays by assessing the industrial-base capacity to meet updated forecasted demands for critical items within the time frames required by operational plans as well as specify when this assessment will be completed, and
		(6) Provide visibility to Congress and other decision makers about how the department plans to acquire critical items to meet demands that emerge during contingencies.
	GAO also recommended the Secretary of Defense take the following three actions and specify when they would be completed:	(7) Revise current joint logistics doctrine to clearly state, consistent with policy, who has responsibility and authority for synchronizing the distribution of supplies from the United States to deployed units during operations;
		(8) Develop and exercise, through a mix of computer simulations and field training, deployable supply receiving and distribution capabilities including trained personnel and related equipment for implementing improved supply management practices, such as radio frequency identification tags that provide in-transit visibility of supplies, to ensure they are sufficient and capable of meeting the requirements in operational plans; and
		(9) Establish common supply information systems that ensure the DOD and the services can requisition supplies promptly and match incoming supplies with unit requisitions to facilitate expeditious and accurate distribution.

Focus area	Theme	Status of recommendations
	Process	Concurred with intent, open
	Process	Concurred with intent, open
	Process	Concurred with intent, open
	Planning	Concurred with intent, open
	Management oversight	Concurred with intent, open
	Policy	Concurred with intent, open
	Planning	Concurred with intent, open
	Process	Concurred with intent, open

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Report title, number, date	Recommendations	
Defense Inventory: Improvements Needed in DOD's Implementation of Its Long-Term Strategy for Total Asset Visibility of Its Inventory (GAO-05-15, December 6, 2004)	GAO continued to believe, as it did in April 1999, that DOD should develop a cohesive, departmentwide plan to ensure that total asset visibility is achieved. Specifically, GAO recommended that the Secretary of Defense develop a departmentwide long-term total asset visibility strategy as part of the Business Enterprise Architecture that:	(1) Describes the complete management structure and assigns accountability to specific offices throughout the department, with milestones and performance measures, for ensuring timely success in achieving total asset visibility;
		(2) Identifies the resource requirements for implementing total asset visibility and includes related investment analyses that show how the major information technology investments will support total asset visibility goals;
		(3) Identifies how departmentwide systems issues that affect implementation of total asset visibility will be addressed; and
		(4) Establishes outcome-oriented total asset visibility goals and performance measures for all relevant components and closely links the measures with timelines for improvement. In addition, since 2001, GAO made a number of recommendations aimed at improving DOD's refinement and implementation of the business management modernization program. Most recently, GAO identified the need to have component plans clearly linked to the long-term objectives of the department's business management modernization program. As they relate to total asset visibility, GAO continued to believe that these recommendations were valid.
Foreign Military Sales: DOD Needs to Take Additional Actions to Prevent Unauthorized Shipments of Spare Parts (GAO-05-17, November 9, 2004)	To reduce the likelihood of releasing classified and controlled spare parts that DOD does not want to be released to foreign countries, GAO recommended that the Secretary of Defense take the following three actions:	(1) Direct the Under Secretary of Defense for Policy, in conjunction with the Secretaries of the Army and the Navy, and direct the Secretary of the Air Force to develop an implementation plan, such as a *Plan of Actions & Milestones*, specifying the remedial actions to be taken to ensure that applicable testing and review of the existing requisition-processing systems are conducted on a periodic basis.
		(2) Direct the Under Secretary of Defense for Policy, in conjunction with the Secretaries of the Army, the Air Force, and the Navy, to determine whether current plans for developing the Case Execution Management Information System call for periodic testing and, if not, provide for such testing.
		(3) Direct the Under Secretary of Defense for Policy, in conjunction with the Secretary of the Navy, and direct the Secretary of the Air Force to determine if it would be beneficial to modify the Navy's and the Air Force's requisition-processing systems so that the systems reject requisitions for classified or controlled parts that foreign countries make under blanket orders and preclude country managers from manually overriding system decisions, and to modify their systems as appropriate.

Focus area	Theme	Status of recommendations
Asset visibility	Performance tracking	Concurred with intent, closed, implemented
	Planning	Concurred with intent, open
	Planning	Concurred with intent, closed, implemented
	Performance tracking	Partially concurred, open
Inventory management	Planning	Partially concurred, closed, implemented
	Management oversight	Concurred, closed, implemented
	Process	Concurred, closed, not implemented

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Report title, number, date	Recommendations	
Defense Inventory: Navy Needs to Improve the Management Over Government- Furnished Material Shipped to Its Repair Contractors (GAO-04-779, July 23, 2004)	To improve the control of government-furnished material shipped to Navy repair contractors, GAO recommended that the Secretary of Defense direct the Secretary of the Navy to instruct the Commander, Naval Inventory Control Point, to implement the following three actions:	(1) Require Navy repair contractors to acknowledge receipt of material that is received from the Navy's supply system as prescribed by DOD procedure.
		(2) Follow up on unconfirmed material receipts within the 45 days as prescribed in the DOD internal control procedures to ensure that the Naval Inventory Control Point can reconcile material shipped to and received by its repair contractors.
		(3) Implement procedures to ensure that quarterly reports of all shipments of government-furnished material to Navy repair contractors are generated and distributed to the Defense Contract Management Agency.
Defense Inventory: Analysis of Consumption of Inventory Exceeding Current Operating Requirements Since September 30, 2001 (GAO-04-689, August 2, 2004)	To address the inventory management shortcomings that GAO identified, GAO recommended that the Secretary of Defense take the following three actions:	(1) Direct the military services and the Defense Logistics Agency to determine whether it would be beneficial to use the actual storage cost data provided by Defense Logistics Agency in their computations, instead of using estimated storage costs, and include that data in their systems and models as appropriate;
		(2) Direct the Secretary of the Air Force to establish and implement a systemwide process for correcting causes of inventory discrepancies between the inventory for which item managers are accountable and the inventory reported by bases and repair centers; and
		(3) Direct the Secretary of the Air Force to revise its policy to require item managers to code inventory so that the inventory is properly categorized.
Foreign Military Sales: Improved Navy Controls Could Prevent Unauthorized Shipments of Classified and Controlled Spare Parts to Foreign Countries (GAO-04-507, June 25, 2004)	To improve internal controls over the Navy's foreign military sales program and to prevent foreign countries from obtaining classified and controlled spare parts under blanket orders, GAO recommended that the Secretary of Defense instruct the Secretary of the Navy to take the following six actions:	(1) Consult with the appropriate officials to resolve the conflict between the DOD and Navy policies on the Navy's use of waivers allowing foreign countries to obtain classified spare parts under blanket orders.
		(2) Determine and implement the necessary changes required to prevent the current system from erroneously approving blanket order requisitions for classified spare parts until the new system is deployed.
		(3) Establish policies and procedures for the Navy's country managers to follow when documenting their decisions to override the system when manually processing blanket order requisitions.
		(4) Require that the Navy's country managers manually enter blanket order requisitions into the Navy's system to correctly represent foreign-country-initiated orders versus U.S. government-initiated orders so the Navy's system will validate whether the foreign countries are eligible to receive the requested spare parts.

Focus area	Theme	Status of recommendations
Inventory management	Process	Concurred, open
	Process	Concurred, open
	Process	Concurred, closed, implemented
Inventory management	Process	Concurred, closed, implemented
	Process	Concurred, closed, implemented
	Policy	Concurred, closed, implemented
Inventory management	Process	Concurred, closed, implemented
	Process	Partially concurred, closed, implemented
	Policy	Concurred, closed, implemented
	Management oversight	Partially concurred, closed, implemented

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Report title, number, date	Recommendations	
		(5) Establish policies and procedures to follow for blanket orders when the Navy's country managers replace spare parts requested by manufacturer or vendor part numbers with corresponding government national stock numbers.
		(6) Establish interim policies and procedures, after consulting with appropriate government officials, for recovering classified or controlled spare parts shipped to foreign countries that might not have been eligible to receive them under blanket orders until the Defense Security Cooperation Agency develops guidance on this issue.
	To improve the Navy system's internal controls aimed at preventing foreign countries from obtaining classified and controlled spare parts under blanket orders, GAO recommended that the Secretary of Defense direct the Under Secretary of Defense for Policy to require the appropriate officials to take the following two actions:	(7) Modify the Navy's system to revalidate blanket order requisitions when the Navy's country manager replaces spare parts that are requested by manufacturer or vendor part numbers.
		(8) Periodically test the system to ensure that it is accurately reviewing blanket order requisitions before approving them.

Focus area	Theme	Status of recommendations
	Policy	Concurred, closed, implemented
	Policy	Partially concurred, closed, not implemented
	Process	Concurred, closed, implemented
	Process	Concurred, closed, implemented

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Report title, number, date	Recommendations	
Foreign Military Sales: Improved Army Controls Could Prevent Unauthorized Shipments of Classified Spare Parts and Items Containing Military Technology to Foreign Countries (GAO-04-327, April 15, 2004)	To improve internal controls over the Army's foreign military sales program and to prevent foreign countries from being able to obtain classified spare parts or unclassified items containing military technology that they are not eligible to receive under blanket orders, GAO recommended that the Secretary of Defense instruct the Secretary of the Army to take the following two actions:	(1) Modify existing policies and procedures, after consultation with the appropriate government officials, to cover items shipped in lieu of items ordered to also ensure the recovery of classified spare parts that have been shipped to foreign countries that may not be eligible to receive them under blanket orders.
		(2) Modify existing policies and procedures covering items, after consultation with the appropriate government officials, to cover items shipped in lieu of items ordered to also ensure the recovery of unclassified items containing military technology that have been shipped to foreign countries that may not be eligible to receive them under blanket orders.
	To improve the Army system's internal controls aimed at preventing foreign countries from obtaining classified spare parts or unclassified items containing military technology under blanket orders, GAO recommended that the Secretary of Defense direct the Under Secretary of Defense for Policy to require the appropriate officials to take the following two actions:	(3) Modify the system so that it identifies blanket order requisitions for unclassified items containing military technology that should be reviewed before they are released.
		(4) Periodically test the system and its logic for restricting requisitions to ensure that the system is accurately reviewing and approving blanket order requisitions.
Defense Inventory: Opportunities Exist to Improve Spare Parts Support Aboard Deployed Navy Ships (GAO-03-887, August 29, 2003)	In order to improve supply availability, enhance operations and mission readiness, and reduce operating costs for deployed ships, GAO recommended the Secretary of Defense direct the Secretary of the Navy to:	(1) Develop plans to conduct periodic ship configuration audits and to ensure that configuration records are updated and maintained in order that accurate inventory data can be developed for deployed ships;
		(2) Ensure that demand data for parts entered into ship supply systems are recorded promptly and accurately as required to ensure that onboard ship inventories reflect current usage or demands;
		(3) Periodically identify and purge spare parts from ship inventories to reduce costs when parts have not been requisitioned for long periods of time and are not needed according to current and accurate configuration and parts demand information; and
		(4) Ensure that casualty reports are issued consistent with high priority maintenance work orders, as required by Navy instruction, to provide a more complete assessment of ship's readiness.

Focus area	Theme	Status of recommendations
Inventory management	Policy	Nonconcurred, closed, not implemented
	Policy	Nonconcurred, closed, not implemented
	Process	Concurred, closed, implemented
	Process	Concurred, closed, implemented
Requirements forecasting	Planning	Concurred, open
	Process	Concurred, open
	Process	Concurred, open
	Management oversight	Concurred with intent, closed, implemented

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Report title, number, date	Recommendations	
Defense Inventory: Several Actions Are Needed To Further DLA's Efforts to Mitigate Shortages of Critical Parts (GA0-03-709, August 1, 2003)	To improve the supply availability of critical readiness degrading spare parts that may improve the overall readiness posture of the military services, GAO recommended that the Secretary of Defense direct the Director of the Defense Logistics Agency to:	(1) Submit, as appropriate, requests for waiver(s) of the provisions of the DOD Supply Chain Materiel Management Regulation 4140.1-R that limit the safety level of supply parts to specific demand levels. Such waivers would allow Defense Logistics Agency to buy sufficient critical spare parts that affect readiness of service weapon systems to attain an 85 percent minimum availability goal;
		(2) Change the agency's current aggregate 85 percent supply availability goal for critical spare parts that affect readiness, to a minimum 85 percent supply availability goal for each critical spare part, and because of the long lead times in acquiring certain critical parts, establish annual performance targets for achieving the 85 percent minimum goal; and
		(3) Prioritize funding as necessary to achieve the annual performance targets and ultimately the 85 percent minimum supply availability goal.
Foreign Military Sales: Improved Air Force Controls Could Prevent Unauthorized Shipments of Classified and Controlled Spare Parts to Foreign Countries (GAO-03-664, July 29, 2003)	To improve internal controls over the Air Force's foreign military sales program and to minimize countries' abilities to obtain classified or controlled spare parts under blanket orders for which they are not eligible, GAO recommended that the Secretary of Defense instruct the Secretary of the Air Force to require the appropriate officials to take the following steps:	(1) Modify the Security Assistance Management Information System so that it validates country requisitions based on the requisitioned item's complete national stock number.
		(2) Establish policies and procedures for recovering classified or controlled items that are erroneously shipped.
		(3) Establish polices and procedures for validating modifications made to the Security Assistance Management Information System to ensure that the changes were properly made.
		(4) Periodically test the Security Assistance Management Information System to ensure that the system's logic for restricting requisitions is working correctly.
		(5) Establish a policy for command country managers to document the basis for their decisions to override Security Assistance Management Information System or foreign military sales case manager recommendations.
Defense Inventory: Navy Logistics Strategy and Initiatives Need to Address Spare Parts Shortages (GA0-03-708, June 27, 2003)	GAO recommended that the Secretary of Defense direct the Secretary of the Navy to:	(1) Develop a framework for mitigating criticel spare parts shortages that includes long-term goals; measurable, outcome-related objectives; implementation goals; and performance measures as a part of either the Navy Sea Enterprise strategy or the Naval Supply Systems Command Strategic Plan, which will provide a basis for management to assess the extent to which ongoing and planned initiatives will contribute to the mitigation of critical spare parts shortages; and
		(2) Implement the Office of the Secretary of Defense's recommendation to report, as part of budget requests, the impact of funding on individual weapon system readiness with a specific milestone for completion.

Focus area	Theme	Status of recommendations
Inventory management	Process	Concurred, closed, implemented
	Performance tracking	Concurred with intent, closed, not implemented
	Performance tracking	Concurred with intent, closed, not implemented
Inventory management	Process	Concurred, closed, implemented
	Policy	Concurred, open
	Policy	Concurred, open
	Process	Partially concurred, closed, implemented
	Policy	Concurred, closed, implemented
Inventory management	Performance tracking	Concurred with intent, closed, not implemented
	Process	Concurred with intent, closed, implemented

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Report title, number, date	Recommendations	
Defense Inventory: The Department Needs a Focused Effort to Overcome Critical Spare Parts Shortages (GAO-03-707, June 27, 2003)	In order to improve the department's logistics strategic plan to achieve results for overcoming spare parts shortages, improve readiness, and address the long-standing weaknesses that are limiting the overall economy and efficiency of logistics operations, GAO recommended that the Secretary of Defense direct the Under Secretary for Acquisition, Technology, and Logistics to:	(1) Incorporate clear goals, objectives, and performance measures pertaining to mitigating spare parts shortages in the Future Logistics Enterprise or appropriate agencywide initiatives to include efforts recommended by the Under Secretary of Defense, Comptroller in his August 2002 study report.
	GAO also recommended that the Secretary of Defense direct the Under Secretary of Defense, Comptroller to	(2) Establish reporting milestones and define how it will measure progress in implementing the August 2002 Inventory Management Study recommendations related to mitigating critical spare parts shortages.
Defense Inventory: Air Force Plans and Initiatives to Mitigate Spare Parts Shortages Need Better Implementation (GAO-03-706, June 27, 2003)	GAO recommended that the Secretary of Defense direct the Secretary of the Air Force to take the following steps:	(1) Incorporate the *Air Force Strategic Plan's* performance measures and targets into the subordinate *Logistics Support Plan* and the *Supply Strategic Plan*.
		(2) Commit to start those remaining initiatives needed to address the causes of spare parts shortages or clearly identify how the initiatives have been incorporated into those initiatives already underway.
		(3) Adopt performance measures and targets for its initiatives that will show how their implementation will affect critical spare parts availability and readiness.
		(4) Direct the new Innovation and Transformation Directorate to establish plans and priorities for improving management of logistics initiatives consistent with the *Air Force Strategic Plan*.
		(5) Request spare parts funds in the Air Force's budget consistent with results of its spare parts requirements determination process.
Defense Inventory: The Army Needs a Plan to Overcome Critical Spare Parts Shortages (GAO-03-705, June 27, 2003)	GAO recommended that the Secretary of Defense direct the Secretary of the Army to:	(1) Modify or supplement the *Transformation Campaign Plan*, or the Army-wide logistics initiatives to include a focus on mitigating critical spare parts shortages with goals, objectives, milestones, and quantifiable performance measures, such as supply availability and readiness-related outcomes and
		(2) Implement the Office of Secretary of Defense recommendation to report, as part of budget requests, the impact of additional spare parts funding on equipment readiness with specific milestones for completion.

Focus area	Theme	Status of recommendations
Inventory management	Performance tracking	Concurred with intent, closed, not implemented
	Performance tracking	Partially concurred, closed, not implemented
Inventory management	Performance tracking	Concurred with intent, closed, implemented
	Process	Concurred with intent, closed, not implemented
	Performance tracking	Concurred with intent, closed, implemented
	Planning	Concurred with intent, closed, implemented
	Process	Concurred with intent, closed, implemented
Inventory management	Planning	Concurred with intent, closed, not implemented
	Process	Concurred with intent, closed, implemented

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Report title, number, date	Recommendations	
Defense Inventory: Overall Inventory and Requirements Are Increasing, but Some Reductions in Navy Requirements Are Possible (GA0-03-355, May 8, 2003)		To improve the accuracy of the Navy's secondary inventory requirements, GAO recommended that the Secretary of Defense direct the Secretary of the Navy to require the Commander, Naval Supply Systems Command, to require its inventory managers to use the most current data available for computing administrative lead time requirements.
Defense Inventory: Better Reporting on Spare Parts Spending Will Enhance Congressional Oversight (GA0-03-18, October 24, 2002)	Given the importance of spare parts to maintaining force readiness, and as justification for future budget requests, actual and complete information would be important to DOD as well as Congress. Therefore, GAO recommended that the Secretary of Defense:	(1) Issue additional guidance on how the services are to identify, compile, and report on actual and complete spare parts spending information, including supplemental funding, in total and by commodity, as specified by Exhibit OP-31 and
		(2) Direct the Secretaries of the military departments to comply with Exhibit OP-31 reporting guidance to ensure that complete information is provided to Congress on the quantities of spare parts purchased and explanations of deviations between programmed and actual spending.
Defense Management: Munitions Requirements and Combatant Commanders' Needs Require Linkage (GAO-03-17, October 15, 2002)		GAO recommended that the Secretary of Defense establish a direct link between the munitions needs of the combatant commands—recognizing the impact of weapons systems and munitions preferred or expected to be employed—and the munitions requirements determinations and purchasing decisions made by the military services.
Defense Inventory: Improved Industrial Base Assessment for Army War Reserve Spares Could Save Money (GA0-02-650, July 12, 2002)	In order to improve the Army's readiness for wartime operations, achieve greater economy in purchasing decisions, and provide Congress with accurate budget submissions for war reserve spare parts, GAO recommended that the Secretary of Defense direct the Secretary of the Army to have the Commander of Army Material Command take the following actions to expand or change its current process consistent with the attributes in this report:	(1) Establish an overarching industrial base capability assessment process that considers the attributes in this report.
		(2) Develop a method to efficiently collect current industrial base capability data directly from industry itself.
		(3) Create analytical tools that identify potential production capability problems such as those due to surge in wartime spare parts demand.
		(4) Create management strategies for resolving spare parts availability problems, for example, by changing acquisition procedures or by targeting investments in material and technology resources to reduce production lead times.

Focus area	Theme	Status of recommendations
Requirements forecasting	Process	Concurred, closed, implemented
Inventory management	Policy	Partially concurred, closed, implemented
	Management oversight	Partially concurred, closed, implemented
Requirements forecasting	Process	Concurred, closed, implemented
Inventory management	Process	Partially concurred, closed, not implemented
	Process	Partially concurred, closed, not implemented
	Process	Partially concurred, closed, not implemented
	Process	Partially concurred, closed, not implemented

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Report title, number, date	**Recommendations**	
Defense Inventory: Air Force Needs to Improve Control Of Shipments to Repair Contractors (GA0-02-617, July 1, 2002)	To improve the control of inventory being shipped, GAO recommended that the Secretary of Defense direct the Secretary of the Air Force to undertake the following: Improve processes for providing contractor access to government-furnished material by:	(1) Listing specific stock numbers and quantities of material in repair contracts (as they are modified or newly written) that the inventory control points have agreed to furnish to contractors.
		(2) Demonstrating that automated internal control systems for loading and screening stock numbers and quantities against contractor requisitions perform as designed.
		(3) Loading stock numbers and quantities that the inventory control points have agreed to furnish to contractors into the control systems manually until the automated systems have been shown to perform as designed.
		(4) Requiring that waivers to loading stock numbers and quantities manually are adequately justified and documented based on cost-effective and/or mission-critical needs.
	Revise Air Force supply procedures to include explicit responsibility and accountability for:	(5) Generating quarterly reports of all shipments of Air Force material to contractors.
		(6) Distributing the reports to Defense Contract Management Agency property administrators.
		(7) Determine, for the contractors in our review, what actions are needed to correct problems in posting material receipts.
		(8) Determine, for the contractors in our review, what actions are needed to correct problems in reporting shipment discrepancies.
		(9) Establish interim procedures to reconcile records of materiel shipped to contractors with records of material received by them, until the Air Force completes the transition to its Commercial Asset Visibility system in fiscal year 2004.
		(10) Comply with existing procedures to request, collect, and analyze contractor shipment discrepancy data to reduce the vulnerability of shipped inventory to undetected loss, misplacement, or theft.
Defense Inventory: Control Weaknesses Leave Restricted and Hazardous Excess Property Vulnerable to Improper Use, Loss, and Theft (GAO-02-75, January 25, 2002)	For all programs, GAO recommended that the Secretary of Defense direct the Director of the Defense Logistics Agency to take the following actions:	(1) As part of the department's redesign of its activity code database, establish codes that identify the type of excess property—by federal supply class—and the quantity that each special program is eligible to obtain and provide accountable program officers access to appropriate information to identify any inconsistencies between what was approved and what was received.
		(2) Reiterate policy stressing that Defense reutilization facility staff must notify special program officials of the specific tracking and handling requirements of hazardous items and items with military technology/applications.

Focus area	Theme	Status of recommendations
Inventory management	Process	Concurred, closed, implemented
	Process	Nonconcurred, closed, not implemented
	Process	Partially concurred, closed, not implemented
	Process	Partially concurred, closed, implemented
	Process	Concurred, closed, implemented
	Process	Concurred, closed, implemented
	Process	Concurred, closed, not implemented
	Process	Concurred, closed, not implemented
	Process	Concurred, closed, implemented
	Management oversight	Partially concurred, closed, not implemented
Inventory management	Process	Partially concurred, closed, implemented
	Management oversight	Concurred, closed, implemented

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Report title, number, date	Recommendations	
		GAO also recommended that the Secretary of Defense ensure that accountable program officers within the department verify, prior to approving the issuance of excess property, the eligibility of special programs to obtain specific types and amounts of property, including items that are hazardous or have military technology/applications. This could be accomplished, in part, through the department's ongoing redesign of its activity code database.
	For each individual program, GAO further recommended the following:	(1) With regard to the 12th Congressional Regional Equipment Center, that the Secretary of Defense direct the Director of the Defense Logistics Agency to review and amend, as necessary, its agreement with the Center in the following areas: (a) The Center's financial responsibility for the cost of shipping excess property obtained under the experimental project,
		(b) The ancillary items the Center is eligible to receive,
		(c) The rules concerning the sale of property and procedures for the Center to notify the Agency of all proposed sales of excess property,
		(d) The Center's responsibility for tracking items having military technology/application and hazardous items, and
		(e) The need for Agency approval of the Center's orders for excess property.
		(2) With regard to the Army, the Navy, and the Air Force Military Affiliate Radio Systems, GAO recommended that the Secretary of Defense direct the Chairman of the Joint Chiefs of Staff to have the Joint Staff Directorate for Command, Control, Communications, and Computer Systems review which items these systems are eligible to receive, on the basis of their mission and needs, and direct each of the Military Affiliate Radio Systems to accurately track excess property, including pilferable items, items with military technology/ applications, and hazardous items.
		(3) With regard to the Civil Air Patrol, GAO recommended that the Secretary of Defense direct the Secretary of the Air Force to have the Civil Air Patrol-Air Force review which items the Patrol is eligible to receive, on the basis of its mission and needs, and direct the Patrol to accurately track its excess property, including pilferable items, items with military technology/applications, and hazardous items.

Focus area	Theme	Status of recommendations
	Process	Partially concurred, closed, implemented
	Policy	Concurred, closed, implemented
	Policy	Concurred, closed, implemented
	Policy	Concurred, closed, implemented
	Policy	Concurred, closed, implemented
	Policy	Concurred, closed, implemented
	Process	Concurred, closed, implemented
	Process	Concurred, open

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Report title, number, date	Recommendations	
Defense Logistics: Strategic Planning Weaknesses Leave Economy, Efficiency, and Effectiveness of Future Support Systems at Risk (GAO-02-106, October 11, 2001)	To provide the military services, the Defense Logistics Agency, and the U.S. Transportation Command with e framework for developing a departmentwide approach to logistics reengineering, GAO recommended that the Secretary of Defense direct the Under Secretary of Defense for Acquisition, Technology, and Logistics to revise the departmentwide Logistics Strategic Plan to provide for an overarching logistics strategy that will guide the components' logistics planning efforts. Among other things, this logistics strategy should:	(1) Specify a comprehensive approach that addresses the logistics life-cycle process from acquisition through support and system disposal, including the manner in which logistics is to be considered in the system and equipment acquisition process and how key support activities such as procurement, transportation, storage, maintenance, and disposal will be accomplished.
		(2) Identify the logistics requirements the department will have to fulfill, how it will be organized to fulfill these requirements, and who will be responsible for providing specific types of logistics support.
		(3) Identify the numbers and types of logistics facilities and personnel the department will need to support future logistics requirements.
		(4) GAO also recommended that the Under Secretary of Defense for Acquisition, Technology, and Logistics establish a mechanism for monitoring the extent to which the components are implementing the department's Logistics Strategic Plan. Specifically, the Under Secretary of Defense for Acquisition, Technology, and Logistics should monitor the extent to which the components' implementation plans are (a) consistent with the departmentwide plan, (b) directly related to the departmentwide plan and to each other, and (c) contain appropriate key management elements, such as performance measures and specific milestones.

Focus area	Theme	Status of recommendations
Other: Strategic	Planning	Concurred, closed, implemented
	Planning	Concurred, closed, implemented
	Planning	Concurred, closed, implemented
	Management oversight	Concurred, closed, implemented

Source: GAO.

Supply Chain Management: Summary of DOD-IG Report Recommendations

Report title, number, date	Recommendations	
Logistics: Defense Logistics Agency Processing of Special Program Requirements (D-2005-020, November 17, 2004)	The Director, Defense Logistics Agency should:	Prepare quarterly statistic reports quantifying the cost effectiveness of the special program requirement initiative to reduce or cancel procurement actions by the use of adjusted buy-back rates, segregated by Defense Supply Centers.
Logistics: Navy Controls Over Materiel Sent to Defense Reutilization and Marketing Offices (D-2004-095, June 24, 2004)	1.(A) The Commander, Naval Supply Systems Command should establish controls to ensure that Navy organizations comply with Naval Supply Command Publication P-485, "Ashore Policy," June 1998, requirements to:	A.1. Transmit shipment notification transactions to the Defense Reutilization and Marketing Service when materiel is shipped to the Defense Reutilization and Marketing Office and ensure the data in the shipment notification are accurate.
		A.2. Review and research Defense Reutilization and Marketing Service follow-up transactions for materiel reported as shipped but not received, and respond to the Defense Reutilization and Marketing Service follow-up transactions in a timely manner.
	1.(B-D) The Commander, Naval Supply Systems Command should:	B. Establish controls to ensure that Navy organizations either demilitarize materiel or provide demilitarization instructions to the Defense Logistics Agency Depots, prior to requesting the depot ship materiel to disposal, and respond to depot requests for demilitarization instructions in a timely manner.
		C. Validate that the Realtime Reutilization Asset Management Program Office reprograms its computer system to ensure that disposal shipment notifications, rather than disposal shipment confirmations, are sent to Defense Reutilization and Marketing Service for disposal shipments.
		D. Request that the Defense Reutilization and Marketing Service provide management reports which identify Navy organizations that are not responding to disposal follow-up transactions for materiel reported as shipped but not received and that are not sending disposal shipment notifications for materiel shipped to disposal.

Focus area	Theme	Status Of Recommendations
Inventory management	Management oversight	Partially concurred, open
Inventory management	Management oversight	Concurred, closed, implemented
	Process	Concurred, closed, implemented
	Management oversight	Concurred, open
	Management oversight	Concurred, closed, implemented
	Management oversight	Concurred, closed, implemented

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Report title, number, date	Recommendations	
	2. The Director, Defense Logistics Agency should:	A. Establish controls to ensure that Defense Distribution Depot personnel request the required demilitarization instructions for all materiel awaiting disposal instructions and reverse the disposal transactions if the required instructions are not received.
		B. Establish controls to ensure that the Defense Reutilization and Marketing Service reviews and analyzes management data to identify Navy organizations that are not routinely preparing shipment disposal notifications or are not routinely responding to follow-up transactions and identify to the Naval Supply Systems Command potential problems with data in the in-transit control system in order for the Naval Supply Systems Command to ensure that Navy organizations comply with disposal procedures.
Logistics: Accountability and Control of Materiel at the Marine Corps Logistics Base Albany, Georgia (D-2004-077, April 29, 2004)	The Commanding General, Marine Corps Logistics Command should:	1. Identify all excess materiel and return the materiel to the supply system, as required by Marine Corps Order P4400.151B, "Intermediate-Level Supply Management Policy Manual," July 9, 1992.
		2. Perform physical inventories of all materiel in all storage locations and adjust inventory records accordingly.
Logistics: Defense Logistics Agency Cost to Maintain Inactive National Stock Numbers Items (D-2004-024, November 19, 2003)	The Director, Defense Logistics Agency should:	1. Reevaluate the cost categories for determining the average annual cost for maintaining an inactive national stock number item in the Defense Logistics Agency supply system and recalculate the average annual cost consistent with other pricing and cost methodologies.
		2. Discontinue application of the draft Defense Logistics Agency Office of Operations Research and Resource Analysis report, "Cost of a DLA Maintained Inactive National Stock Number," July 2002, to any authorized programs of DOD or the Defense Logistics Agency until all applicable cost categories are fully evaluated and the applicable costs of those relevant categories are incorporated into the cost study.

Focus area	Theme	Status Of Recommendations
	Management oversight	Concurred, closed, implemented
	Management oversight	Concurred, closed, implemented
Inventory management	Process	Concurred, closed, implemented
	Process	Concurred, closed, implemented
Inventory management	Process	Partially concurred, closed, implemented
	Process	Concurred, closed, implemented

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Report title, number, date	**Recommendations**	
Logistics: Defense Logistics Agency Processing of Other Nonrecurring Requirements (D-2004-018, November 7, 2003)	1. The Director, Defense Logistics Agency should revise Defense Logistics Agency Manual 4140.2, Volume II, "Defense Operations Manual, Defense Supply Center, Supply Operating Procedures," April 2002, to specifically:	A. Identify the circumstances or conditions under which other nonrecurring requirements are authorized for processing.
		B. Identify the requirements for documenting the methodology and rationale for using other nonrecurring requirement transactions.
		C. Establish requirements for identifying the supply center personnel who enter other nonrecurring requirements in the Defense Logistics Agency supply system and retaining other nonrecurring requirement records after the support dates have passed.
	2. The Director, Defense Logistics Agency should:	Establish a timeline for the Defense supply centers to validate outstanding other nonrecurring requirement transactions in the Defense Logistics Agency supply system. Other nonrecurring requirement transactions that do not have sufficient supporting documentation or that cannot be validated should be canceled or reduced and reported to the Defense Logistics Agency. The report should include the total number of other nonrecurring requirement transactions that were deleted and the dollar value of procurement actions that were canceled as a result.
Logistics: Accountability and Control of Materiel at the Ogden Air Logistics Center (D-2003-130, September 5, 2003)	The Commander, Ogden Air Logistics Center should immediately:	1. Comply with the guidance in Air Force Manual 23-110, "U.S. Air Force Supply Manual," and Air Force Materiel Command Instruction 21-130, "Equipment Maintenance Materiel Control," regarding the management of maintenance materiel stored at the Air Logistics Center.
		2. Perform an annual physical inventory of all materiel recorded in the D035K Wholesale and Retail and Shipping System that is the responsibility of the Maintenance Directorate, reconcile the results, and turn in excess materiel to supply.
		3. Perform a physical count of all materiel located on the maintenance shop floors and in storage areas to identify unaccountable and excess materiel, reconcile the physical count to the D035K Wholesale and Retail and Shipping System, and turn in excess materiel to supply.
		4. Complete the review of courtesy storage materiel listed in the materiel processing system and either turn in the excess to supply, move to the D035K Wholesale and Retail and Shipping System, or dispose of the materiel.

Focus area	Theme	Status Of Recommendations
Requirements forecasting	Policy	Partially concurred, closed, implemented
	Policy	Partially concurred, closed, implemented
	Policy	Partially concurred, closed, implemented
	Management oversight	Partially concurred, closed, implemented
Inventory management	Management oversight	Concurred, closed, implemented
	Process	Concurred, closed, implemented
	Process	Concurred, closed, implemented
	Process	Concurred, closed, implemented

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Report title, number, date	**Recommendations**	
Logistics: Follow-up Audit of Depot-Level Repairable Assets at Selected Army and Navy Organizations (D-2003-098, June 5, 2003)	1. The Commander, Army Materiel Command should:	A. Expedite funding and the deployment of the Commercial Asset Visibility system to Army commercial repair facilities. Funding and deployment should be prioritized based primarily on the dollar value of repairable assets at the commercial repair facilities.
		B. Perform oversight of compliance with DoD 4000.25-2-M, "Military Standard Transaction Reporting and Accounting Procedures," March 28, 2002, to conduct annual location reconciliations between inventory control point records and storage depot records.
	2. The Commander, Communications-Electronics Command should:	A. Determine whether the items with inventory records that were adjusted as a result of the October 2002 reconciliation between the Communications-Electronics Command and the Defense Depot Tobyhanna Pennsylvania are obsolete or excess to requirements. That determination should be made before requesting special inventories or performing other costly causative research procedures.
		B. Dispose of those assets that are identified as obsolete or excess to projected requirements.
	3. The Commander, Naval Inventory Control Point should:	A. Develop in-house procedures to provide management information reports to the inventory accuracy officer, comparable to the management information reports required in the February 2003 contract awarded to Resources Consultant Incorporated, to assist in reducing in-transit inventory.
		B. Establish controls to ensure that all in-transit items that meet the criteria in Naval Supply Systems Command Publication 723, "Navy Inventory Integrity Procedures," April 19, 2000, are reviewed prior to writing them off as an inventory loss.
Logistics: Accountability and Control of Materiel at the Warner Robins Air Logistics Center (D-2003-064, March 20, 2003)	The Commander, Warner Robins Air Logistics Center should immediately:	1. Comply with Air Force guidance regarding the management of maintenance materiel stored at the Air Logistics Center.
		2. Issue guidance regarding materiel management reports for management review.
		3. Perform an annual physical inventory of all materiel recorded in the D035K Wholesale and Retail and Shipping System that is the responsibility of the Maintenance Directorate, reconcile the results, and turn in excess materiel to supply.
		4. Perform a physical count of all materiel located on the maintenance shop floors and in storerooms, reconcile the physical count to the D035K Wholesale and Retail and Shipping System, and turn in excess materiel to supply.

Focus area	Theme	Status Of Recommendations
Inventory management	Process	Concurred, open
	Management oversight	Concurred, closed, implemented
	Process	Concurred, closed, implemented
	Process	Concurred, open
	Process	Concurred, closed, implemented
	Management oversight	Concurred, closed, implemented
Inventory management	Management oversight	Concurred, closed, implemented
	Policy	Concurred, closed, implemented
	Process	Concurred, closed, implemented
	Process	Concurred, closed, implemented

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Report title, number, date	Recommendations	
		5. Update or complete Air Force Materiel Command Form 100 for each line of floating stock and spares inventory. Submit to the floating stock and spares monitor for processing those forms in which the authorization level changes.
		6. Perform semi-annual reviews of materiel stored in the courtesy storage area and turn in excess materiel to supply.
		7. Perform quarterly reviews of bench stock materiel in the Low Altitude Navigation and Targeting Infrared for Night shop of the Avionics Division and turn in excess materiel to supply.
Logistics: Accountability and Control of Materiel at the Naval Air Depot, Jacksonville (D-2003-057, March 5, 2003)	1. The Commander, Naval Air Systems Command should:	A. Enforce the requirements of Naval Air Systems Command Instruction 4400.5A to identify excess materiel that has been inactive for more than 270 days for routine use materiel and 12 months for long lead-time or low demand materiel.
		B. Require quarterly reporting of excess of materiel at Naval Air Depots to ensure excess materiel does not accumulate.
		C. Develop policy for point of use inventory.
	2. The Commander, Naval Air Depot, Jacksonville should:	A. Perform physical inventories of materiel stored in all storage locations and adjust inventory records accordingly.
		B. Perform the required quarterly reviews of materiel stored in maintenance storerooms to determine whether valid requirements exist for the materiel.
		C. Identify all excess materiel stored in maintenance storerooms and return the materiel to the supply system.
Supply Inventory Management: Accountability and Control of Materiel at the Naval Air Depot, North Island (D-2003-033, December 6, 2002)	1. The Commander, Naval Air Systems Command should ensure that the Naval Air Depot, North Island should:	A. Comply with Navy guidance regarding the storage of maintenance materiel at the depot, performance of quarterly reviews of maintenance materiel on hand, and submission of management reports for review.
		B. Develop and implement an effective management control program.
	2. The Commander, Naval Air Depot, North Island should immediately:	A. Inventory materiel stored in work center storerooms, record all of the on-hand materiel on accountable records, identify the materiel for which a valid need exists, and return the items with no known requirement to the supply system.
		B. Review jobs at closeout to determine whether a need exists for leftover materiel. Leftover, unneeded materiel should be made visible to item managers and disposed of in a timely manner.
		C. Perform the required quarterly reviews of materiel stored in work center storerooms to determine whether valid requirements exist for the materiel.

Focus area	Theme	Status Of Recommendations
	Process	Concurred, closed, implemented
	Management oversight	Concurred, closed, implemented
	Management oversight	Concurred, closed, implemented
Inventory management	Management oversight	Concurred, closed, implemented
	Management oversight	Concurred, open
	Policy	Concurred, closed, implemented
	Process	Concurred, closed, implemented
	Management oversight	Concurred, closed, implemented
	Process	Concurred, open
Inventory management	Management oversight	Concurred, closed, implemented
	Management oversight	Concurred, closed, implemented
	Process	Concurred, closed, implemented
	Process	Concurred, closed, implemented
	Management oversight	Concurred, closed, implemented

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Report title, number, date	Recommendations	
		D. Perform physical inventories of materiel stored in all storage locations and adjust inventory records accordingly.
Supply Inventory Management: Defense Logistics Agency Managed Items Supporting Air Force Weapon Systems (D-2002-149, September 18, 2002)	1. The Director, Defense Logistics Agency should establish controls to ensure that national stock number items supporting current weapon systems are not deleted from the supply system. Those controls should include procedures to:	A. Comply with the Defense Logistics Agency Manual 4140.2 requirement that Defense Logistics Agency item managers contact the supply center monitor for the weapon system support program to coordinate the deletion of the code that identifies the national stock number item as a weapon system item.
		B. Comply with the Defense Logistics Agency Manual 4140.3 requirement that the supply center monitor for the weapon system support program notify the Military Departments when a national stock number item supporting a weapon system is to be deleted from the supply system as a result of the Defense Inactive Item Program process.
	2. The Director, Defense Logistics Agency, in coordination with the Air Force, should:	Determine the most efficient and cost-effective method to reinstate national stock number items that were inappropriately deleted from the supply system.
	3. The Commander, Air Force Materiel Command should:	A. Review the revised procedures for processing Defense Inactive Item Program transactions when the FY 2002 process is complete to ensure the procedures are working as intended and that inactive item review notifications are being promptly returned to the Defense Logistics Agency.
		B. Establish controls to ensure that inactive item review notifications are reviewed by the user and are returned to the Defense Logistics Agency before an automatic retain notification is provided to the Defense Logistics Agency.
		C. Establish controls to review Defense Logistics Agency transactions deleting national stock numbers from Air Force systems so that the inappropriate deletion of required data from the Air Force supply system is prevented.
Supply Inventory Management: Defense Logistics Agency Aviation Investment Strategy Program (D-2002-136, July 31, 2002)	1. The Director, Defense Logistics Agency should direct the Defense Supply Center Richmond to revise the Aviation Investment Strategy implementation plan to more fully express how the program execution process should be accomplished to ensure appropriate additive investments. Specifically, the plan should:	A. Describe the factors to be used by the Military Departments and supply centers to evaluate the validity of potential candidates for additive investment.
		B. Require that additive safety level requirements be based on consistent and up-to-date supply availability data.
		C. Require regular reviews to determine whether additive safety levels continue to be appropriate. Establish a frequency for when and how often reviews should be made and the criteria for making necessary safety level adjustments and reinvesting funds.
		D. Establish a method for maintaining safety level increases that adheres to the DoD safety level limitation while recognizing and adjusting to changes in the supply system.

Focus area	Theme	Status Of Recommendations
	Process	Concurred, closed, implemented
Inventory management	Management oversight	Concurred, closed, implemented
	Management oversight	Concurred, closed, implemented
	Planning	Concurred, closed, implemented
	Process	Concurred, closed, implemented
	Management oversight	Concurred, closed, implemented
	Management oversight	Concurred, closed, implemented
Inventory management	Planning	Concurred, closed, implemented
	Planning	Partially concurred, closed, implemented
	Planning	Concurred, closed, implemented
	Planning	Concurred, closed, implemented

(Continued From Previous Page)

Report title, number, date	Recommendations	
		E. Establish a time frame for continuous program evaluation and a resolution process that includes a flag or general officer from each Military Department whenever problem elevation is needed.
	2. The Director, Defense Logistics Agency should:	Approve and coordinate with the Military Departments the revised implementation plan.
Supply Inventory Management: Terminal Items Managed by the Defense Logistics Agency for the Navy (D-2002-131, July 22, 2002)	1. The Director, Defense Logistics Agency should:	A. Revise Defense Logistics Agency Manual 4140.2, "Supply Operations Manual," July 1, 1999, to include terminal national stock number items with registered users in the Defense Inactive Item Program.
		B. Maintain and report statistics on how many terminal national stock number items are deleted from the supply system after the North Atlantic Treaty Organization and foreign governments review the items.
	2. The Commander, Naval Supply Systems Command should:	Establish controls to ensure that the Navy is removed as a registered user of Defense Logistics Agency-managed national stock number items that are no longer required.
Supply Inventory management: Industrial Prime Vendor Program at the Air Force Air Logistics Centers (D-2002-112, June 20, 2002)	A.1. The Commander, Defense Supply Center Philadelphia should require Industrial Prime Vendor Program officials to:	A. Discontinue the use of the market basket approach to determine which bench-stock items are placed on the industrial prime vendor contract. Instead, evaluate each item separately and select the most economical source to supply material.
		B. Review inventory levels and discontinue placing items on the industrial prime vendor contract with more than 3 years of inventory.
		C. Take appropriate action in accordance with contract terms to remove items with more than 3 years of inventory and start using existing depot inventories as the first choice to fill contract demand.
	A.2. The Director, Defense Logistics Agency should:	Convene a performance improvement team composed of representatives from all relevant stakeholders, including appropriate oversight agencies, to plan and execute a reengineered best value approach to manage bench-stock material for all customers that addresses competition and restriction on contract bundling.
	B. The Commander, Defense Supply Center Philadelphia should:	1. Implement procedures to ensure that future spot buy material procurements are priced and paid for in accordance with the terms of the contract.
		2. Obtain a full refund from the Science Application International Corporation for erroneous charges, including lost interest, and take appropriate steps to reimburse the air logistics centers for the full amount of the contract overcharges.

Focus area	Theme	Status Of Recommendations
	Planning	Concurred, closed, implemented
	Planning	Concurred, closed, implemented
Inventory management	Policy	Nonconcurred, open
	Management oversight	Nonconcurred, closed, implemented
	Management oversight	Concurred, closed, implemented
Inventory management	Process	Partially concurred, closed, implemented
	Process	Partially concurred, closed, implemented
	Process	Partially concurred, closed, implemented
	Planning	Concurred, closed, implemented
	Process	Concurred, closed, implemented
	Process	Concurred, closed, implemented

(Continued From Previous Page)

Report title, number, date	Recommendations	
Supply Inventory Management: Accountability and Control of Materiel at the Corpus Christi Army Depot (D-2002-091, May 21, 2002)	1. The Commander, Aviation and Missile Command should:	Direct the Corpus Christi Army Depot to comply with Army guidance regarding the storage of maintenance materiel at the depot and the preparation and submission of management reports for review.
	2. (A-F) The Commander, Corpus Christi Army Depot should immediately:	A. Price the materiel stored in the Automated Storage and Retrieval System that has no extended dollar value or that has been added to the physical inventory, and identify the value of inventory excess to prevailing requirements.
		B. Inventory materiel stored in work centers on the maintenance shop floors, record the materiel on accountable records, identify the materiel for which a valid need exists, and turn in or transfer to other programs excess materiel.
		C. Perform an annual physical inventory of all of the materiel stored in the Automated Storage and Retrieval System.
		D. Perform the required quarterly reviews of materiel stored in the Automated Storage and Retrieval System to determine if valid requirements exist for the stored materiel.
		E. Review projects at the 50-percent, 75-percent, and 90-percent completion stages to determine if a need exists for materiel in storage.
		F. Perform a reconciliation between the Automated Storage and Retrieval System and Maintenance Shop Floor System files, at a minimum monthly, to determine if files are accurate. A physical inventory should be performed to correct any deficiencies.
	2. (G) The Commander, Corpus Christi Army Depot should immediately prepare and submit the following report to management for review:	1. A monthly total dollar value for materiel stored in the Automated Storage and Retrieval System.
		2. Items stored in the Automated Storage and Retrieval System with no demand in the last 180 days.
		3. Materiel stored in the Automated Storage and Retrieval System against closed program control numbers.
		4. Materiel stored against overhead program control numbers.
		5. Potential excess materiel by program control number.
Logistics: Delivery and Receipt of DOD Cargo Inbound to the Republic of Korea (D-2002-079, April 5, 2002)	A. The Commander, U.S. Forces Korea should:	1. Establish guidance for delivery of cargo from ports of debarkation within the theater using Uniform Materiel Movement and Issue Priority System standards or U.S. Forces Korea supplemental standards to the Uniform Materiel Movement and Issue Priority System criteria more applicable to theater requirements.

Focus area	Theme	Status Of Recommendations
Inventory management	Management oversight	Concurred, closed, implemented
	Process	Concurred, open
	Process	Concurred, closed, implemented
	Process	Concurred, closed, implemented
	Process	Concurred, closed, implemented
	Process	Concurred, closed, implemented
	Process	Concurred, closed, implemented
	Management oversight	Concurred, closed, implemented
	Management oversight	Partially concurred, closed, implemented
	Management oversight	Concurred, closed, implemented
	Management oversight	Concurred, closed, implemented
	Management oversight	Concurred , closed, implemented
Materiel distribution	Policy	Concurred, open

(Continued From Previous Page)

Report title, number, date	Recommendations	
		2. Establish procedures for using and maintaining documentation that provides evidence of delivery times and the accuracy of the delivered cargo.
		3. Prepare or amend commercial carrier contracts that contain delivery provisions for weekend and holiday deliveries, and penalties for nonperformance compliance with the standards established by the provisions of Recommendation A.1.
		4. Establish procedures to ensure that the priority of the cargo to be delivered from a port of debarkation is matched with a commercial carrier contract that has the necessary provisions that will ensure delivery within the standards established by Recommendation A.1.
		5. Establish procedures, metrics, and surveillance plans that will monitor and ensure carrier performance of contract specifications and reconcile movement control documents received from commercial carriers to ensure consignees received prompt and accurate delivery of all cargo.
	B. The Commander, U.S. Forces Korea should revise U.S. Forces Korea Regulation 55-355 to require:	1. Supply Support Activities to maintain dated and signed truck manifests and pickup sheets to confirm receipt.
		2. Supply Support Activities immediately contact end users for pickup of high priority cargo within the same day the cargo is made available for end user.
Supply Inventory Management: Management of Terminal Items at the Defense Logistics Agency (D-2002-060, March 13, 2002)	The Director, Defense Logistics Agency should:	1. Revise Defense Logistics Agency Manual 4140.2, "Supply Operations Manual," July 1, 1999, to include terminal national stock number items with no registered users in the Defense Inactive Item Program last user withdrawn process.
		2. Maintain and report statistics on how many terminal national stock number items are deleted from the supply system after the North Atlantic Treaty Organization and foreign governments review the items.
Information Technology: Effectiveness of the Joint Total Asset Visibility Program (D-2002-057, March 11, 2002)	The Deputy Under Secretary of Defense (Logistics and Materiel Readiness) should:	Ensure that the Joint Total Asset Visibility Program is funded until sufficient operational capabilities of the Global Combat Support System have been fielded and can provide capabilities that are at least equivalent to the existing Joint Total Asset Visibility Program.

Focus area	Theme	Status Of Recommendations
	Process	Concurred, open
	Process	Concurred, open
	Process	Concurred, closed, implemented
	Performance tracking	Concurred, closed, implemented
	Policy	Concurred, closed, implemented
	Policy	Concurred, closed, implemented
Inventory management	Policy	Concurred, open
	Management oversight	Nonconcurred, open
Asset visibility	Management oversight	Concurred, closed, implemented

(Continued From Previous Page)

Report title, number, date	Recommendations	
Government Performance and Results Act: Performance Measure for DOD Total Asset Visibility (D-2002-016, November 21, 2001)	The Deputy Under Secretary of Defense (Logistics and Materiel Readiness) should:	1. Evaluate the usefulness of the DoD Total Asset Visibility performance measure.
		2. Issue specific, written, performance measure guidance that standardizes and clarifies the required data elements for the Total Asset Visibility measure consistent with the evaluation of the usefulness of the measure.
		3. Establish and institutionalize a process to evaluate and verify data submitted by DoD Components for the Total Asset Visibility performance measure, consistent with the evaluation of the usefulness of the measure.
Accountability and Control of Materiel at the Tobyhanna Army Depot (D-2002-003, October 4, 2001)	A.1. The Army Deputy Chief of Staff for Logistics should:	Reassess guidance regarding the 60-day storage and requisitioning of fabrication materiel at maintenance depots and revise Army Regulation 750-2. The guidance should state the following: • the appropriate number of days depots should be allowed for storing and requisitioning fabrication materiel. • quarterly reviews should be performed to determine if materiel is still required.

Focus area	Theme	Status Of Recommendations
Asset visibility	Management oversight	Concurred, closed, implemented
	Performance tracking	Concurred, closed, not implemented
	Process	Concurred, closed, not implemented
Inventory management	Policy	Concurred, closed, not implemented

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Report title, number, date	Recommendations	
	A.2. The Commander, Communications-Electronics Command should:	Issue guidance regarding management of the Automated Storage and Retrieval System at Tobyhanna. The guidance should include the following: • all materiel stored in the Automated Storage and Retrieval System shall be, at a minimum, identified by owning cost center; national stock number/part number; program control number; quantity; acquisition source code; nomenclature; and condition code. • a review of any materiel with a date of last activity more than 6 months shall be performed. • an annual physical inventory of any materiel stored in the Automated Storage and Retrieval System shall be performed. • items stored in mission stocks must represent a bona fide potential requirement for performance of a maintenance or fabrication requirement. • availability of materiel from previously completed fabrication orders must be determined before placing new requisitions. • projects shall be reviewed at the 50 percent, 75 percent, and 90 percent completion stages to determine if a need exists for materiel still in storage. • reclaimed materiel, materiel removed from assets in maintenance, and work in process may be stored until reutilized on the maintenance program. Excess reclaimed materiel shall be turned in or transferred to a valid funded program. • materiel shall not be stored in Automated Storage and Retrieval System in an overhead account. • quarterly reviews shall be performed on materiel stored in the Automated Storage and Retrieval System to determine if requirements still exist. • prior to closing a depot maintenance program, any associated remaining repair parts, spares, and materiel on hand shall be transferred to an ongoing program or a program that will begin within 180 days or turned in to the installation supply support activity within 15 days. •The gaining program must be funded, open, and valid. •The transferred materiel must be a bona fide potential requirement of the gaining program.

Focus area	Theme	Status Of Recommendations
	Policy	Concurred, closed, implemented

(Continued From Previous Page)

Report title, number, date	Recommendations	
	A.3. The Commander, Communications-Electronics Command should direct Tobyhanna to immediately:	a. Price the materiel stored in the Automated Storage and Retrieval System that has no extended dollar value or that has been added to the physical inventory, identify the value of inventory excess to prevailing requirements, and notify the Inspector General, DoD, of the corrected dollar value of the inventory and value of inventory excess to the requirements.
		b. Limit the storage of materiel in the Automated Storage and Retrieval System under overhead accounts. Specifically, remove materiel obtained from the Sacramento Air Logistic Center from the overhead account program control numbers.
		c. Record the Tactical Army Combat Computer System equipment on accountable records and inventory and turn in the computer equipment to the supply system because no requirement for the equipment exists at Tobyhanna.
	B.1. The Commander, Communications-Electronics Command should:	Issue guidance regarding reports that should be submitted to management for review. The guidance should require the following reports: • an annual physical inventory of all materiel stored in Automated Storage and Retrieval System. • a reconciliation between the Automated Storage and Retrieval System and Maintenance Shop Floor System files, at a minimum monthly, to determine if files are accurate. • a physical inventory should be performed to correct any deficiencies. Reports should be prepared for management review. • a monthly total dollar value for materiel stored in the Automated Storage and Retrieval System. • items stored in the Automated Storage and Retrieval System with no demand in the last 180 days. • materiel stored in the Automated Storage and Retrieval System against closed program control numbers. • materiel stored against overhead program control numbers. • potential excess materiel by program control number.
	B.2. The Commander, Communications-Electronics Command should:	Direct the Tobyhanna Army Depot to immediately perform a physical inventory and reconcile the Automated Storage and Retrieval System records with the Maintenance Shop Floor System records to verify the accuracy of inventory records and submit report for review.

Focus area	Theme	Status Of Recommendations
	Process	Concurred, closed, implemented
	Process	Concurred, closed, implemented
	Process	Concurred, closed, implemented
	Policy	Concurred, closed, implemented
	Process	Concurred, closed, implemented

Source: DOD-IG.

Supply Chain Management: Summary of Army Audit Agency Report Recommendations

Report title, number, date	Recommendations	
Management of Army Prepositioned Stocks – U.S. Army Materiel Command (A-2006-0200-ALL, August 23, 2006)	For the Commander, U.S. Army Materiel Command	A-1. Include placement of stocks (malpositioned) as part of the Army Pre-positioned Stocks program performance metrics. As a minimum: • clearly define malpositioned stocks and establish procedures for calculating the data to minimize inconsistency or data misrepresentation reported by the subordinate activities. • establish long-term goals for correcting the problems and annually monitor the progress in meeting the goals to ensure the situation doesn't deteriorate. • examine the feasibility of correcting the Web Logistics Integrated Database limitations and shortfalls identified within this report so the system can be used to produce reliable performance data.
		A-2. Improve shelf-life management controls and oversight. As a minimum: • develop stock rotation plans for items in long-term storage outside Continental U.S. or remove the items from outside Continental U.S. storage. • prepare an annual list of all Army Pre-positioned Stocks items due to expire within 12 and 24 months and have U.S. Army Field Support Command ensure stock rotation plans are adequate to minimize expired assets. Use the data to formulate funding requirements for test and inspection. • use critical data fields within information management systems to assist in shelf-life stock rotations. Require U.S. Army Field Support Command to monitor shelf-life data—such as dates of manufacture and expiration dates—provided by its Army Pre-positioned Stocks sites to ensure it is current and complete. Perform quarterly reconciliations. • include shelf-life management metrics as part of the Army Pre-positioned Stocks program performance assessment. Establish goals and develop methods to track and minimize the loss of items due to the expired shelf-life.

Focus area	Theme	Status of recommendations
Inventory management	Performance tracking	Concurred, open
	Management oversight	Concurred, open

(Continued From Previous Page)

Report title, number, date	Recommendations	
		A-3. Strengthen accountability controls and enhance data integrity, reliability, and visibility of pre-positioned stocks. Specifically: • require U.S. Army Communications-Electronics Life Cycle Management Command and U.S. Army Tank-automotive and Armaments Life Cycle Management Command to incorporate controls similar to U.S. Army Aviation and Missile Life Cycle Management Command that will identify and track unauthorized transactions—that is, situations where the ownership purpose code of an item was changed from a war reserve purpose code to a general issue code without first receiving approval from Army Pre-positioned Stocks personnel. • execute the required steps to place data associated with loan transactions onto the Army knowledge online account to facilitate oversight of loan transactions. • numerically sequence each approved request and use the number to cross-reference back to the approved request. • include all Open Army Pre-positioned Stocks loan transactions issued to item managers that weren't paid back as part of the Army Pre-positioned Stocks program performance assessment. • require U.S. Army Communications-Electronics Life Cycle Management Command and U.S. Army Tank-automotive and Armaments Life Cycle Management Command to track the paybacks by establishing a scheduled payback target date so they can be proactive in pursuing collections. • track inventory loss adjustment statistics as a potential source for benchmarking progress on reducing repetitive errors and identifying performance problems. • establish dollar values for supply class VII inventory adjustments in Logistics Modernization Program so loss adjustments meeting the causative research criteria are researched. • randomly sample 25 percent of the inventory loss adjustment transactions to verify the adjustments are supported by evidence of documented causative research and an adequate explanation is documented.
		A-4. Track Army Pre-positioned Stocks site weekly data reconciliations to evaluate performance and data reliability.
Asset Visibility in Support of Operation Iraqi Freedom and Operation Enduring Freedom (A-2006-0188 ALL, August 11, 2006)	For the Commander, 10th Mountain Division (Light Infantry)	A-1. Provide unit commanders with a block of instructions that explain the process and importance of accurately accounting for assets and maintaining the property book.
		A-2. Establish a reminder system to notify gaining and losing units when equipment transfers occur.
		A-3. Develop and distribute guidance to operations personnel stressing the need to follow established procedures for accounting for assets and the importance of providing necessary documentation to property book officers.

Focus area	Theme	Status of recommendations
	Process	Concurred, open
	Process	Concurred, closed, implemented
Asset visibility	Management oversight	Concurred, open
	Process	Concurred, closed, implemented
	Policy	Concurred, closed, implemented

(Continued From Previous Page)

Report title, number, date	Recommendations	
		A-4. Research each discrepancy with equipment transfers and turn-in documents and make appropriate adjustments to the property book records for the 1st and 2nd BCTs. If the missing vehicles can't be located in a reasonable time period, initiate an AR 15-6 investigation and, if warranted, take further appropriate action.
		B-1. Research the discrepancies we found with the 1st, 2nd, and 3rd BCT vehicles and make appropriate adjustments to the respective property books.
Procurement Lead Times US Army Aviation and Missile Life Cycle Management Command (A-2006-0156-ALR, July 17, 2006)	For the Commander, U.S. Army Aviation and Missile Life Cycle Management Command	1. Require: • item managers to consider historical procurement data in the Master Data Record's Sector 10 when justifying values they enter for the Requirements System to use as representative estimates of procurement lead time. • integrated Materiel Management Center second-level supervisors to review and explicitly approve the procurement lead time values entered into the Master Data Record by item managers.
		2. Require contract specielists to adhere to Army and Aviation and Missile Life Cycle Management Command guidance on considering the extent of delay in awarding procurements to vendors when justifying if a procurement should be identified as a representative estimate of a future procurement's administrative lead time.
Increasing Safety Levels for Spare Parts, Office of the Deputy Chief of Staff, G-4 (A-2006-0063-ALR, January 31, 2006)	For the Deputy Chief of Staff, G-4	A-1. Initiate DA staff action to withhold funding for increasing safety levels until Army Materiel Command develops test procedures and identifies key performance indicators to measure and assess the cost-effectiveness and impact on operational readiness.
Subsistence Prime Vendor Contract, Audit of Logistics Civil Augmentation Program (A-2006-0168-ALL, August 4, 2006)	For the Commander, Defense Supply Center Philadelphia	1. Monitor the contractor's progress to ensure the contractor completes the reorganization of the bulk storage warehouses with a location grid plan and subsequent warehousing of operational rations with specific location areas in the warehouses. Then ensure contractor records updated locations of these rations in the warehouse management system database to ensure physical location of products match the database.
		2. Complete end implement the software change package to ensure operational rations containing more than one national stock number are allocated from inventory based on the first-to-expire inventory method.

Focus area	Theme	Status of recommendations
	Process	Concurred, open
	Process	Concurred, open
Inventory management	Management oversight	Concurred, open
	Management oversight	Concurred, open
Inventory management	Performance tracking	Concurred, open
Inventory management	Management oversight	Concurred, closed, implemented
	Process	Concurred, closed, implemented

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Report title, number, date	Recommendations	
		3. Develop and implement guidance for the contractor regarding the requirements for the destruction of government-owned operational rations which have been deemed unfit for human consumption. Require the contracting officer representative to certify the destruction certification package only when adequate documentation is attached to support the operational rations being destroyed. Also, require the contracting officer representative to ensure products are destroyed in a reasonable time frame after the Army Veterinarians recommend destruction of the products. If Implemented, this recommendation should result in monetary savings to the government.
		4. Before shipping excess to theater, review the worldwide excess stock of operational rations and identify the expiration dates on products that may be considered for shipping to replenish operational ration stock in theater. Before shipping stock, coordinate with the Theater Food Advisor to ensure the products can be incorporated into the existing stock on hand and be effectively managed. Also, don't consider for shipment any products with less than 4-months' remaining shelf life unless the Army Veterinarians have inspected and extended the shelf life of the products. In such cases, ensure the documentation accompanies the shipments.
		5. Implement a Quality Assurance Surveillance Plan that encompasses all requirements of the prime vendor contract. Require the Administrative Contracting Officer and the contracting officer representative located at the prime vendor's location in Kuwait to monitor and document the contractor's performance using the Quality Assurance Surveillance Plan on a scheduled basis. Upon completion of each review, the Contracting Officer should review the results of the Quality Assurance Surveillance Plan and determine if any actions are required to correct the areas of concern.
	For the Commander, Defense Supply Center Philadelphia and for the Commander, Coalition Forces Land Component Command	6. Require the Theater Food Advisor and Defense Supply Center Philadelphia to review the quantities of operational rations that are currently excess in the prime vendor's warehouses and ensure none of these products have orders placed until the excess quantities are projected to be depleted. If implemented, this recommendation will result in funds put to better use.
	For the Commander, Coalition Forces Land Component Command	7. Require the Theater Food Advisor to periodically review the inventory of government-owned operational rations and ensure appropriate action is taken when products reach their expiration date but remain in the prime vendor's inventory. If implemented, this recommendation should result in monetary savings to the government.

Focus area	Theme	Status of recommendations
	Policy	Concurred, open
	Process	Nonconcurred, closed, implemented
	Planning	Concurred, open
	Management oversight	Concurred, closed, implemented
	Management oversight	Concurred, closed, implemented

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Report title, number, date	Recommendations	
Logistics Civil Augmentation Program, US Army Materiel Command (A-2006-0022-ALL, November 28, 2005)	For the Commander, U.S. Army Field Support Command	A-1. Ensure that the Defense Contract Audit Agency remains actively involved in monitoring the contractor's costs.
	For the Assistant Secretary of the Army (Acquisition, Logistics and Technology)	B-1. Develop Army guidance for approving contract requirements for deployment operations to include acquisition approval thresholds, members of joint acquisition review boards, and documentation of board actions.
	For the Deputy Chief of Staff, G-4	C-1. Establish guidance addressing how to transfer government property to contractors in the absence of a government property officer to conduct a joint inventory.
		C-2. Issue specific policy on (i) screening the contingency stocks at Fort Polk for possible use on current and future Logistics Civil Augmentation Program contracts, and (ii) returning commercial-type assets to the contingency stocks at Fort Polk after specific contract operations/task orders are completed.
	For the Commander, U.S. Army Field Support Command	C-3. Update Army Materiel Command Pamphlet 700-30 to include specific procedures on: • screening the contingency stocks at Fort Polk for possible use on current and future Logistics Civil Augmentation Program contracts. • returning commercial-type assets to the contingency stocks at Fort Polk after contracts are completed. • disposing of obsolete or unusable property.
	For the Deputy Chief of Staff, G-4	D-1. Include in an annex to AR 715-9 (Contractors Accompanying the Force) the key management controls related to Logistics Civil Augmentation Program, or specify another method for determining whether the management controls related to the program are in place and operating.
Class IX Spare Parts-Operation Iraqi Freedom (A-2005-0250-ALE, August 15, 2005)	For the Deputy Chief of Staff, G-4	1. Authorized Stockage Lists (Inventory On-Hand): Army should issue a change to policy and update AR 710-2 to require forward distribution points in a deployed environment to hold review boards for authorized stockage lists when they deploy and no less often than quarterly thereafter. Require review boards to accept recommendations from dollar cost banding analyses or justify why not. Improvements needed to better meet supply parts demand.
Aviation Assets Office of the Program Executive Officer, Aviation (A-2005-0240-ALW, August 9, 2005)	For the Deputy Chief of Staff, G-4	A-1. Develop policy and procedures for the program executive office community to follow to identify, declare, and return excess components to the Army supply system.
		A-2. Develop and issue guidance that states ownership of Army Working Capital Fund (AWCF) components that subordinate management offices possess and control through modification, conversion, and upgrade programs resides with the Army supply system.

Focus area	Theme	Status of recommendations
Inventory management	Management oversight	Concurred, closed, implemented
	Policy	Concurred, open
	Policy	Nonconcurred, closed, not implemented
	Policy	Nonconcurred, closed, not implemented
	Policy	Partially concurred, closed, not implemented
	Policy	Concurred, closed, implemented
Inventory management	Policy	Concurred, open
Inventory management	Policy	Concurred, open
	Policy	Concurred, open

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Report title, number, date	Recommendations	
		A-3. Make sure policy is clear on the responsibilities of program executive offices and their subordinate management offices in complying with established Army policy and procedures for asset accountability. Specifically, record and account for all Army assets in a standard Army system that interfaces with the Army system of accountability. As a minimum, make sure item managers: • have all transactions and information on acquisition, storage, and disposition of their assets. • are notified of any direct shipments so that the item managers can record the direct shipments to capture demand history for requirements determination.
Asset Visibility and Container Management-Operation Iraqi Freedom (A-2005-0197-ALE, July 5, 2005)	For the Commanding General, U.S. Central Command	A-1. Construct permanent or semipermanent facilities in Kuwait and Iraq in locations where a continued presence is expected and that have a large number of containers being used for storage, force protection, and other requirements. For those locations where construction of permanent or semipermanent facilities isn't feasible, use government-owned containers to meet storage, force protection, and other requirements.
		A-2. Align the Theater Container Management Agency at the appropriate command level to give it the authority to direct and coordinate container management efforts throughout the Central Command area of responsibility.
		A-3. Direct the Theater Container Management Agency to develop and maintain a single theater container management database. Issue guidance that requires all activities in the area of responsibility to use this database for their container management.
	For the Deputy Chief of Staff, G-4	A-4. Coordinate with Military Surface Deployment and Distribution Command to purchase commercial shipping containers in the Central Command area of responsibility that are currently accruing detention. In addition, discontinue use of the Universal Service Contract and only use government-owned containers or containers obtained under long-term leases for future shipment of equipment and supplies into the Central Command area of responsibility. Ensure any long-term lease agreements entered into include provisions to purchase the containers.
		A-5. Coordinate with Military Surface Deployment and Distribution Command to either get possession of the 917 government-owned containers still in the carriers' possession, obtain reimbursement from the carriers for the $2.1 million purchase price of the containers, or negotiate with the carriers to reduce future detention bills by $2.1 million.
		A-6. Coordinate with Military Surface Deployment and Distribution Command to reopen the 6-month review period under the post-payment audit clause to negotiate with commercial carriers to either obtain reimbursement of $11.2 million for detention overcharges on the 29 February 2004 detention list, or negotiate with the carriers to reduce future detention bills by $11.2 million.

Focus area	Theme	Status of recommendations
	Policy	Concurred, open
Asset visibility	Process	Concurred, open
	Management oversight	Concurred, closed, implemented
	Policy	Concurred, closed, implemented
	Process	Concurred, open
	Process	Concurred, closed, implemented
	Process	Concurred, open

(Continued From Previous Page)

Report title, number, date	Recommendations	
	For the Commanding General, Military Surface Deployment and Distribution Command	A-7. Perform either a 100-percent review of future detention bills or use statistical sampling techniques to review carrier bills prior to payment.
	For the Commander, Coalition Forces Land Component Command	B-1. Include the minimum data requirements identified in the July 2004 DOD memorandum that established policy for the use of radio frequency identification technology in the statements of work for task order 58 and all other applicable task orders.
Rapid Fielding Initiative Accountability Procedures, Program Executive Office, Soldier (A-2005-0182-ALS, May 12, 2005)	For the Deputy Chief of Staff, G-4	1. Clarify accountability requirements for rapid fielding initiative (RFI) property distributed through program executive officer (PEO) Soldier; specifically, accountability requirements for organizational clothing and individual equipment (OCIE) items when not issued by a central issued facility (CIF).
	For the Program Executive Officer, Soldier and For the Executive Director, U.S. Army Research, Development and Engineering Command Acquisition Center	2. Instruct the appropriate personnel at the rapid fielding initiative warehouse to complete and document causative research within 30 days of inventory. Have the causative research: • identify documents used in the causative research process and the procedures followed to resolve the error in the results of the causative research. • identify the circumstances causing the variance. • make changes to operating procedures to prevent errors from recurring. • include government approval signatures before processing inventory adjustments and a system for tracking inventory adjustments so managers can cross-reference adjustments and identify those representing reversals.
		3. Assign a quality assurance representative to the rapid fielding initiative warehouse that can provide the appropriate contract oversight and prompt feedback to the contractor on accountability and performance issues. Direct the individual to coordinate with the contracting officer to ensure the contracting officer incorporates instructions for evaluating contract requirements into key documents, such as a surveillance plan and an appointment letter.
		4. Coordinate with the contracting officer to instruct the contractor to include the results of performance metrics related to inventory adjustments, location accuracy, inventory accuracy, and inventory control in the weekly deliverables or other appropriate forum. Have the contractor also include a spreadsheet with the overall accountability metric in the weekly reports for each line item and a continental United States (CONUS) fielding accountability spreadsheet after each fielding is completed. The data fields would include: • overall inventory control accountability would include: Prior week ending inventory balance + all receipts and returns for the current week = all shipments from the warehouse + ending inventory on hand.

Focus area	Theme	Status of recommendations
	Management oversight	Concurred, open
	Process	Concurred, closed, implemented
Materiel distribution	Policy	Concurred, closed, implemented
	Management oversight	Concurred, closed, implemented
	Management oversight	Concurred, open
	Performance tracking	Concurred, closed, implemented

(Continued From Previous Page)

Report title, number, date	Recommendations	
		5. Direct the RFI contracting officer technical representative from program executive officer Soldier to work together with the contracting officer to develop a surveillance plan and provide the plan to the contract monitor. Include in the plan provisions for spot-checks if developers rely on the contractor's quality control plan.
Functionality of Logistics Automated Systems-Operation Iraqi Freedom (A-2005-0172-ALE, April 27, 2005)	For the Deputy Chief of Staff, G-4	A-1. Coordinate with the Deputy Chief of Staff, G-3 to develop guidance that instructs deploying units on protecting automation equipment from voltage differences and extreme environmental temperature conditions.
	For Commanding General, Coalition Forces Land Component Command	A-2. Direct all units in the Kuwaiti area of operations to provide controlled temperature conditions for automation equipment.
		A-3. Instruct all units arriving in the Kuwaiti area of operations on how to protect automation equipment from voltage differences.
		B-1. Declassify the order that identifies which combat service support automation management office units should contact for assistance.
Theater Distribution Capabilities-Operation Iraqi Freedom (A-2005-0168-ALE, April 26, 2005)	For the Deputy Chief of Staff, G-3/5/7	A-1. Evaluate lessons learned from Operation Iraqi Freedom. As appropriate, adjust force structure requirements for military police and transportation personnel during the Total Army Analysis and contingency operations planning processes.
	For Commander, Coalition Forces Land Component Command	A-2. Reduce the number of trucks assigned to the aerial port of debarkation to better reflect actual daily requirements. Coordinate with the Air Force at the aerial port of debarkation to obtain advanced notice of air shipments on a daily basis. Monitor use periodically to determine if future adjustments are required.
		A-3. Reestablish a theater distribution management center and make it responsible for synchronizing overall movement control operations for the Iraqi theater of operations. Coordinate with the Multi-National Force-Iraq to establish a standardized convoy tracking and reporting procedure.

Focus area	Theme	Status of recommendations
	Management oversight	Concurred, closed, implemented
Inventory management	Policy	Concurred, open
	Management oversight	Concurred, closed, implemented
	Management oversight	Concurred, closed, implemented
	Process	Nonconcurred, closed, implemented
Materiel distribution	Management oversight	Concurred, open
	Process	Concurred, open
	Management oversight	Concurred, open

(Continued From Previous Page)

Report title, number, date	**Recommendations**	
Management Controls of Wholesale Munitions (A-2005-0099-FFG, February 4, 2005)	For the Joint Munitions Command	A-1. Coordinate with depots currently using local databases to track receipt transactions and develop a standard database that can be used by all depots to effectively track receipts from arrival date to posting. Each depot should be required to use this comprehensive database to track receipts and monitor the suspense dates to ensure receipts are posted to the Standard Depot System within the time standards. At a minimum, this database should include: • start and completion dates for key management controls. • date of arrival. • receipt control number and date assigned. • cross Reference Number assigned by the Standard Depot System. • suspense dates (when receipt should be posted to record). • date of physical count and reconciliation to receipt documentation. • if receipt required Report of Discrepancy be sent to shipper and date report was sent if required. • daily review control (list of receipts that are approaching required posting date). • date stored. • date posted. • reason for not posting within required time frame.
		A-2. Initiate a change to Army Materiel Command Regulation 740-27 to incorporate steps for identifying misplaced or lost labels in depot quality control checks, command assessments, and other tools used to measure depot performance.
		A-3. Fully use performance indicators (Depot Quality Control Checks, 304 Reports, and command assessments) as management tools to ensure necessary management controls are in place and operating for all depots' receipt process. Also, ensure depots have effective training programs that consist of both on-the-job training and formal training to ensure depot personnel are aware of key controls and their responsibilities. Provide training on weaknesses and negative trends identified during biannual command assessments.
	For the Blue Grass Army Depot and McAlester Army Ammunition Depot	A-4. Assign receipt control numbers based on the date the receipt arrived, and accountability transfers from transporter to depot.
		A-5. Submit Reports of Discrepancy to shipper for all discrepancies between physical counts and receipt documents, including when no receipt documents are received.
		A-6. Post receipts to records in temporary location, when it meets the requirement for a reportable storage location, to ensure receipt transactions are posted so that munitions can be made visible for redistribution in a timely manner.

Focus area	Theme	Status of recommendations
Asset visibility	Process	Concurred, open
	Policy	Concurred, open
	Performance tracking	Concurred, closed, implemented
	Process	Concurred, closed, implemented
	Management oversight	Concurred, closed, implemented
	Process	Concurred, closed, implemented

(Continued From Previous Page)

Report title, number, date	Recommendations	
Asset Visibility Of Military Equipment During Conversions U.S. Army Communications- Electronics Command (A-2004-0529-FFG, September 30, 2004)	For the Commander, U.S. Army Communications-Electronics Command	1. Reemphasize to item managers to use supply document transactions, as specified in AR 725-50, to generate due-ins in command's wholesale asset visibility system when directing the movement of military equipment items to a conversion contractor.
		2. Direct item managers to use a GM fund code in disposition instructions to troop turn-in units and materiel release orders to storage activities directing shipments of equipment items to conversion contractors or to an Army depot maintenance facility.
		3. Request the Logistics Support Activity to assign Routing Identifier Codes and related DOD Activity Address Codes for all conversion contractor operating locations where the contractor maintains quantities of items in the conversion process, but doesn't presently have the codes. For future conversion contracts develop a process to ensure that all required codes are assigned immediately following contract award.
		4. Reemphasize to item managers to: • monitor asset visibility system management reports for creation of due-ins. • require immediate corrective actions when due-ins aren't created in the asset visibility system.
		5. Reemphasize to item managers the requirement to perform follow up on due-ins when receipts aren't posted in command's asset visibility system within time periods stated in AR 725-50.
		6. Incorporate into the current and all future conversion contracts, in coordination with the appropriate Project/Program Managers, the requirement for conversion contractors to transmit supply document transactions to the asset visibility system at Communications-Electronics Command in order to report: • receipts of assets upon arrival at the contractor's plant. • changes in item configurations during the conversion process. • shipments to gaining activities following conversion operations.
		7. Until the conversion contracts are modified as detailed in Recommendation 6, require operating personnel to obtain all necessary supply documents and manually enter all necessary transactions into command's asset visibility system to report receipts at contractor locations from turn-in units and storage activities, changes in equipment item configurations, and shipments of converted items to gaining activities.
		8. Take appropriate actions to ensure unused component parts returned from conversion programs are not improperly reported in command's asset visibility system as complete military equipment systems. Specifically, for National Stock Number 5840-01-009-4939: • request an inventory at the depot storage activity to identify all component parts improperly returned as complete systems. • use the inventory results to adjust on-hand quantities in command's asset visibility system to ensure accurate balances.

Focus area	Theme	Status of recommendations
Asset visibility	Management oversight	Concurred, closed, implemented
	Management oversight	Concurred, closed, implemented
	Process	Concurred, closed, implemented
	Management oversight	Concurred, closed, implemented
	Management oversight	Concurred, closed, implemented
	Process	Concurred, closed, implemented
	Management oversight	Concurred, closed, implemented
	Process	Concurred, closed, implemented

(Continued From Previous Page)

Report title, number, date	Recommendations	
		9. Direct the Tobyhanna Army Depot maintenance facility to take all actions necessary to ensure appropriate supply document transactions are processed when equipment items are received, converted, and transferred back to storage ready for issue.
		10. Direct operating personnel to evaluate all Communications-Electronics Command equipment items undergoing disassembly, conversion, modification, or overhaul programs to determine if the same processes used for the items discussed in this report are applicable to them. If so, require operating personnel to apply the recommendations in this report to those affected items.
Selected Asset Holding Projects (A-2004-0333-AML, June 9, 2004)	For the Commander, U.S. Army Materiel Command	1. Establish Army guidance requiring integrated materiel managers to perform annual reviews of holding project assets and follow up on redistribution actions.
		2. Direct commodity commands to redistribute holding project assets to other pre-positioned stock projects or to general issue.
		3. Direct commodity commands to dispose of excess, unserviceable, and obsolete assets in holding projects. Direct materiel managers to review the 38 bulky items in holding projects to identify excess assets and dispose of them.
		4. Establish guidance on the use of holding projects that requires managers to either provide a documented rationale for retaining excess assets in holding projects or dispose of them. Include in the guidance the requirement that inventory management commanders or their designees review the retention rationales for approval or disapproval.
		5. Establish guidance that requires materiel managers to review holding projects annually to identify unserviceable (condemned, economically unrepairable, and scrap) and obsolete assets in holding projects. Include in the guidance the requirement that the identified assets be disposed of within 12 months.
Management Controls for Wholesale Munitions Inventories Integration of Automatic Identification Technology (A-2004-0261-FFG, May 18, 2004)	For the Joint Munitions Command	1. Use the integration plan to manage the integration of automatic identification technology in receiving and shipping processes, as well as the seal site program. At a minimum, the plan should be periodically reviewed to make sure: • adequate workforces are dedicated for integration tasks in the future. • equipment and software are thoroughly tested and determined to be functional before being fielding to ammunition storage activities.

Focus area	Theme	Status of recommendations
	Management oversight	Concurred, closed, implemented
	Management oversight	Concurred, closed, implemented
Inventory management	Policy	Concurred, open
	Management oversight	Concurred, open
	Management oversight	Concurred, closed, implemented
	Policy	Concurred, open
	Policy	Concurred, open
Asset visibility	Management oversight	Concurred, closed, implemented

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Report title, number, date	Recommendations	
		2. Require contractor to use Standard Depot System's composition rules and traditional edit checks in software development for the remaining applications to automatic identification technology. The development should include the: • use of established performance measures to ensure that all the contractor's products and services meet Joint Munitions Command's automatic identification technology needs, such as appropriate edit checks before fielding. • development of specific tasks with timelines to ensure that established implementation goals are met in the most effective and efficient manner. This should include penalties to ensure timely delivery of necessary equipment and software applications from contractors.
Ammunition and Small Arms California Army National Guard (A-2004-0269-IMT, April 30, 2004)	For the Adjutant General, California National Guard	A-1. Establish procedures that ensure commands and units reduce training ammunition forecasts when units determine that training ammunition requirements have changed.
		B-1. Make sure ammunition supply point personnel follow procedures to post all ammunition supply transactions in the Training Ammunition Management System on the day the transaction occurs.
		B-2. Make sure the ammunition supply point has procedures to maintain updated plan-o-graphs that show the locations and lot numbers of the ammunition stored in the ammunition supply point bunkers and includes the procedures in the supply point's standing operating procedures.
		B-3. Develop a plan to establish a reliable quality assurance specialist (ammunition surveillance) capability for the ammunition supply point and California Army National Guard units. Include in the plan an evaluation of whether the California Guard should have an internal quality assurance capability instead of relying on a memorandum of agreement with Fort Hunter-Liggett.
		B-4. Correct the contingency ammunition control problems at California Guard units by: • identifying all contingency ammunition that is currently on-hand at all California Guard units and establishing proper accountability over the ammunition. • preparing a serious incident report if the amount of ammunition unaccounted for that is identified at the units meets the criteria in AR 190-40. • ensuring that units and the ammunition supply point follow established procedures for maintaining all issue and turn-in documentation for security ammunition to support the quantities recorded on the units' hand receipt.

Focus area	Theme	Status of recommendations
	Management oversight	Concurred, closed, implemented
Inventory management	Process	Concurred, closed, implemented
	Management oversight	Concurred, closed, implemented
	Process	Concurred, closed, implemented
	Planning	Concurred, open
	Process	Concurred, closed, implemented

(Continued From Previous Page)

Report title, number, date	Recommendations	
		B-5. Follow procedures for reviewing and updating security and contingency ammunition requirements. At a minimum: • determine ammunition requirements based on threat assessments, potential missions and force structure available to provide a response. • coordinate and establish a current ammunition distribution plan. • conduct an annual review of ammunition requirements. • maintain a list of where ammunition is being stored for State contingency by type and quantity.
		B-6. Make sure units follow the requirement to provide all small arms supply transactions to the U.S. Property and Fiscal Office within 5 working days so that the DA central registry can be updated within 10 working days.
		B-7. Make sure units follow the checklist in AR 190-11 related to physical security over the storage of small arms and document the results of their inspections.
Operational Projects Summary Eighth U.S. Army (A-2004-0224-FFP, April 8, 2004)	For the Commander, Eighth U.S. Army	1. Take appropriate action to perform and document required Operational Project reviews. Specifically: • establish and prescribe guidelines and criteria that will inject more discipline into the Operational Project review and validation process. Prescribe key factors, best practices, and methods for determining and documenting Operational Project requirements. • have each project proponent perform an analysis each year in accordance with the annual review process in Army Regulation 710-1 and whenever the Operational Plan changes. The project proponent should include an updated letter of justification that references where each project's list of requirements originated and how the quantities for each item were computed. • after receiving the official response from the project proponent, Eighth Army, G-4, War Reserve, should submit a memorandum to Headquarters, DA, G-4 for the purpose of documenting the annual review.
		2. Have the War Reserve Branch track completion of annual reviews and 5-year revalidations; periodically review documentation of reviews and revalidations to evaluate their sufficiency.
Operational Project Stocks Phase II (A-2004-0108-AML, February 12, 2004)	For the Deputy Chief of Staff, G-3	1. Develop and apply detailed criteria to assess the adequacy of operational project packages and the validity of related requirements, and approve only those projects that meet the criteria.
		2. Establish criteria and guidelines that require proponent commands to identify and prioritize mission essential equipment in operational projects. Establish a policy to fund the higher priority items first.

Focus area	Theme	Status of recommendations
	Process	Concurred, closed, implemented
	Management oversight	Concurred, closed, not implemented
	Management oversight	Concurred, open
Requirements forecasting	Management oversight	Concurred, open
	Management oversight	Concurred, closed, implemented
Requirements forecasting	Policy	Concurred, open
	Policy	Concurred, open

(Continued From Previous Page)

Report title, number, date	**Recommendations**	
	For the Deputy Chief of Staff, G-3 and For the Deputy Chief of Staff, G-4	3. Establish and prescribe guidelines and criteria that will inject more discipline into the operational project requirements determination process. Prescribe key factors, best practices, and methods for determining and documenting operational project requirements.
	For the Deputy Chief of Staff, G-4	4. Designate only commands with clear or vested interest in projects as the proponents.
		5. Provide guidance to project proponents that outline strategies and methodologies for reviewing and revalidating operational projects.
		6. Track completion of reviews and 5-year revalidations, periodically review documentation of reviews and revalidations to evaluate its sufficiency, and reestablish the enforcement policy that would allow cancellation of operational projects when proponents don't perform timely, adequate reviews or revalidations. Consider having a formal Memorandum of Agreement with Army Materiel Command to track operational project reviews and revalidations.
		7. Revise guidance requiring annual reviews for all operational projects to consider the individual characteristics of projects when scheduling the frequency of reviews.
Aviation Spare Parts Requirements Supply Control Studies U.S. Army Aviation and Missile Command (A-2004-0109-AMW December 31, 2003)	For the U.S. Army Aviation and Missle Command	1. Instruct the responsible item managers to: • initiate actions to dispose of quantities that exceed documented requirements for the seven items identified. • determine if it's economical to reduce the planned procurement quantities excess to requirements for the five items identified. For those that are economically feasible, take action to reduce planned procurement quantities. If these actions are implemented, we estimate they will result in potential monetary savings of about $1.7 million.
Operation Enduring Freedom—Management and Use of Shipping Containers (A-2004-0066-IMU, December 9, 2003)	For the Commanding General, Combined Joint Task Force 180	1. Build semi-permanent storage facilities for class I supplies at Bagram and Kandahar, including facilities for dry and frozen goods storage.
		2. Direct base operations commanders to record all containers purchased with Operation Enduring Freedom funds in the installation property books. In addition: • conduct a 100-percent physical inventory of shipping containers at each installation. • record all leased and purchased containers in the property book. Make sure the serial numbers of the shipping containers are recorded, too. • establish procedures with the contracting office to ensure that the installation property book officer is given documentation when containers are purchased or leased.

Focus area	Theme	Status of recommendations
	Policy	Concurred, open
	Management oversight	Concurred, closed, implemented
	Management oversight	Concurred, closed, implemented
	Management oversight	Concurred, closed, implemented
	Policy	Concurred, open
Inventory management	Management oversight	Concurred, closed, implemented
Materiel distribution	Process	Concurred, open
	Management oversight	Concurred, open

(Continued From Previous Page)

Report title, number, date	Recommendations	
Operation Enduring Freedom—Class IX Aviation Spare Parts (A-2004-0013-IMU, October 7, 2003)	For the Commander, Combined Joint Task Force 180	1. Increase the size of the supply support activity in Bagram to 1,700 line items of authorized stockage list to ensure the availability of critical aviation spare parts.
		2. Require the supply support activity officer to hold inventory reviews every 30 days or less with aviation maintenance units to ensure adequate inventory levels of items on the authorized stockage list.
		3. Place Army expeditors—"the go-to guys"—familiar with class IX aviation spare parts at choke points located in Germany in the Army and Air Force delivery system to prioritize pallets and shipments.
Operation Enduring Freedom—Class IX Aviation Spare Parts (A-2003-0400-IMU, August 19, 2003)	For the Deputy Chief of Staff, G-4	1. Establish theater DOD activity address codes for units to fall in on when assigned to Operation Enduring Freedom.
Operation Enduring Freedom—Use of Automatic Identification Technology for In-Transit Visibility (A-2003-0371-IMU, July 24, 2003)	For the Deputy Chief of Staff, G-4	1. Issue guidance directing activities to attach radio frequency tags to shipments en route to the Operation Enduring Freedom area of responsibility. Enforce requirements to tag shipments by directing transportation activities not to allow the movement of cargo without a radio frequency tag attached.
		2. Direct Military Traffic Management Command to obtain radio frequency tag numbers from activities shipping goods and to report those tag numbers to transportation officers by including them in the in-transit visibility (ITV) Stans report.
		3. Issue additional guidance to activities clarifying procedures they should follow for the retrograde of radio frequency tags and to replenish their supply of tags.
Operation Enduring Freedom—In-Transit Visibility (A-2003-0370-IMU, July 24, 2003)	For the Joint Logistics Command	1. Make sure movement control teams tag shipments as required by US Central Command guidance to ensure that improvements continue during future rotations.
Operational Projects in Europe, U.S. Army Europe and Seventh Army (A-2003-0354-IMU, July 10, 2003)	For the Commanding General, U.S. Army, Europe and Seventh Army	A-1. Direct responsible activities to: • validate current requirements for subproject PCA (authorizing chemical defense equipment for 53,000 troops) to augment U.S. Army Europe's second set deficiencies and submit the requirements to DA for approval in accordance with AR 710-1. • revalidate requirements for chemical defense equipment for project PCS (see PCA), including the addition of equipment decontamination kits. Revise requirements for chemical defense equipment for the Kosovo Force mission and submit the changes to DA.
		A-2. Ask Army Materiel Command to fully fill revised requirements for chemical defense equipment for operational project PCS and to redistribute or dispose of excess items from operational projects PCA and PBC.

Focus area	Theme	Status of recommendations
Inventory management	Process	Partially concurred, open
	Management oversight	Partially concurred, open
	Process	Partially concurred, open
Inventory management	Process	Concurred, closed, implemented
Asset visibility	Policy	Concurred, closed, implemented
	Management oversight	Nonconcurred, closed, implemented
	Policy	Concurred, closed, implemented
Asset visibility	Management oversight	Concurred, closed, implemented
Requirements Forecasting	Management oversight	Concurred, closed, not implemented
	Process	Concurred, closed, not implemented

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Report title, number, date	Recommendations	
		B-1. Direct responsible activities to review and validate all project requirements for collective support systems as required by AR 710-1.
		C-1. Direct responsible activities to: • ask DA to cancel subprojects PZP and PZQ (project codes to provide equipment for reception of reinforcing forces deploying to Europe and other theaters). • develop requirements and request a new receiving, staging, onward movement and integration operational project, if needed, in accordance with AR 710-1.
		D-1. Ask DA to cancel operational subproject PYN (project code) for aircraft matting.
		D-2. Submit new operational project requirements for aircraft matting to DA in accordance with AR 710-1.
Army Total Asset visibility Capability (A-2003-0303-AML, June 18, 2003)	For the Deputy Chief of Staff, G-4	A-1. Develop a system of metrics, to include performance goals, objectives, and measures, for evaluating the reliability of data in the capability. Establish processes for comparing actual performance to the metrics and taking remedial action when performance goals and objectives aren't met. (Recommendation B-3 calls for a process to compare data in the capability and feeder systems. The results of these comparisons would constitute the actual data reliability performance.)
		A-2. Develop goals and objectives for use in evaluating the success of redistribution actions for Army assets. Develop procedures for identifying and correcting the causes for referral denials that exceed the established goals.
	For the Deputy Chief of Staff, G-4	B-1. Issue guidance to project and product managers detailing the proper use of bypass codes on procurement actions.
		B-2. Include definitive guidance on the use of bypass codes into appropriate guidance documents on The Army's business processes, such as AR 710-1. Make sure the guidance explains the ramifications of using the different codes.
	For the Commander, U.S. Army Materiel Command	B-3. Direct the Logistics Support Activity to perform periodic reviews of data in the capability to ensure that it agrees with data in feeder systems, and take action to identify and correct the causes for any differences.
		B-4. Require commodity commands to use the Post-award Management Reporting System to help manage contract receipts. Also, make sure the Logistics Modernization Program has the capability to manage invalid due-in records.
		B-5. Direct commodity commands to delete all procurement due-in records with delivery dates greater than 2 years old. Have the commodity commands research and resolve due-in records with delivery dates more than 90 days old but less than 2 years old.
		B-6. Direct commodity commands to review and remove invalid due-in records for field returns with delivery dates over 180 days.

Focus area	Theme	Status of recommendations
	Management oversight	Concurred, closed, not implemented
	Management oversight	Concurred, closed, not implemented
	Process	Concurred, closed, not implemented
	Management oversight	Concurred, closed, not implemented
Asset visibility	Performance tracking	Concurred, open
	Planning	Nonconcurred, closed, not implemented
	Policy	Concurred, closed, implemented
	Policy	Concurred, closed, implemented
	Management oversight	Concurred, open
	Management oversight	Concurred, open
	Management oversight	Concurred, open
	Management oversight	Concurred, open

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Report title, number, date	Recommendations	
		B-7. Require commodity commands to periodically scan the Commodity System for procurement actions issued with bypass codes. Ask project and program managers to explain the decision to use a bypass code. Report the results of the review to the Assistant Secretary of the Army (Acquisition, Logistics and Technology). If the Logistics Modernization Program continues to employ bypass codes or other methods that prevent the creation of a due-in record, conduct similar reviews when the Logistics Modernization Program is implemented.
	For the Commander, U.S. Army Materiel Command	C-1. Incorporate instructions on the use of the capability into appropriate guidance documents on The Army's logistics business processes, such as AR 710-1. These instructions should address topics such as reviewing the capability for excess items before procuring additional stocks.
		C-2. Direct the Logistics Support Activity to review data in the Army Total Asset visibility capability for potentially erroneous data. Establish a procedure for reporting the potentially erroneous data to the activities responsible for the data and performing research to determine the validity of the data.
	For the Deputy Chief of Staff, G-4	D-1. Revise AR 710-2 and 710-3 to comply with the requirements of AR 11-2. Specifically: • develop management control evaluation checklists addressing the accuracy and reliability of data in the Army Total Asset visibility capability and publish these controls in the governing Army regulations, or • identify other evaluation methods and include these in the applicable Army regulations.
Asset Status Transactions (A-2003-0289-AML, June 13, 2003)	For the Commander, U.S. Army Materiel Command	1. Emphasize to the commodity commands the need to periodically review the process for creating asset status transactions in the Commodity Command Standard System to ensure the transactions are properly created and forwarded to the Logistics Support Activity.
		2. Revise Automated Data Systems Manual 18-LOA-KCN-ZZZ-UM to require activities to promptly submit monthly asset status transactions to the Logistics Support Activity.

Focus area	Theme	Status of recommendations
	Management oversight	Concurred, open
	Policy	Concurred, closed, implemented
	Management oversight	Concurred, open
	Policy	Concurred, closed, implemented
Asset visibility	Management oversight	Concurred, open
	Policy	Concurred, closed, implemented

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Report title, number, date	**Recommendations**	
	For the Commander, U.S. Army Materiel Command Logistics Support Activity	3. Establish procedures for notifying source activities when the capability rejects asset status transactions. Make sure that rejected and deleted transactions are reviewed to identify reasons for the transactions being rejected or deleted. If appropriate, correct the rejected transactions and resubmit them for processing to the capability. Based on the results of the reviews, take appropriate action to correct systemic problems.
		4. Establish a control log to monitor participation of Army activities in the monthly asset status transaction process. Use the log to identify activities that didn't submit a monthly update and determine why an update wasn't submitted. Report frequent abusers of the process through appropriate command channels.
		5. Report to the Deputy Chief of Staff, G-4 that AR 710-3 needs to be revised to require activities to promptly submit monthly asset status transactions to the Logistics Support Activity.
		6. Document the process used to update information in the asset visibility module of the Logistics Integrated Data Base.
Operation Enduring Freedom--Property Accountability (A-2003-0294-IMU, June 2, 2003)	For the Defense Logistics Agency	A-1. Obtain a document number from the installation property book office before ordering installation property or organizational clothing and individual equipment. Order only equipment and vehicles for valid requirements approved by the Joint Acquisition Review Board.
		A-2. Include written justification, analyses and study results in documentation for purchase requests and commitments before acquisition decisions are made.
		A-3. Determine the number of vehicles required for the mission. Consider adjusting dollar thresholds for approval by the Joint Acquisition Review Board.
		A-4. Establish written policy to secure explosives using the interim plan. Build a permanent secure area for explosives awaiting movement as soon as possible.
Criteria Used to Stock Repair Parts in the Army's Wholesale Supply System (A-2003-0223-AMA, April 30, 2003)	For the Commander, U.S. Army Materiel Command	A-1. When updating the variable cost-to-procure factor, make sure the following steps are completed until a system like activit-based costing is available to capture costs: • develop cost data for each functional area using groups of well-trained, function experts. • properly document the process used to develop costs. • research and substantiate variances in cost data among buying activities.
		A-2. Make sure updates to the variable cost-to procure factor are given to each buying activity and properly input into the materiel management decision file in the Commodity Command Standard System.

Focus area	Theme	Status of recommendations
	Process	Concurred, closed, implemented
	Management oversight	Concurred, closed, implemented
	Policy	Concurred, closed, implemented
	Process	Concurred, closed, implemented
Requirements forecasting	Management oversight	Concurred, closed, implemented
	Management oversight	Concurred, closed, implemented
	Process	Concurred, closed, implemented
	Policy	Concurred, open
Inventory management	Process	Concurred, open
	Process	Concurred, open

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Report title, number, date	Recommendations	
		A-3. Review the variable cost-to-procure elements in the materiel management decision file and determine which of the three variable cost-to-procure cost categories should be used to update each element. Provide this information to the buying activities for implementation. Do periodic checks to make sure the elements are updated properly.
		A-4. Review the other factors in the materiel management decision file mentioned in this report for accuracy, especially those that haven't been updated in the past 2 years. Specifically make sure the buying activities update the following factors using data related to the commodity they manage: • Variable Cost to Hold (General Storage Cost, Discount Rate, Storage Loss Rate, and Disposal Value). • Probability of No Demands. • Depot Cost Elements (Stock Issue Cost, Fixed Cost, Receipt Cost for Stocked Item, and Non-Stocked Cost). • Percent Premium Paid. • Add-Delete Demands.
		B-1. Have the Requirements Integrity Group (or a similar working group) periodically review the factors used in the economic order quantity/variable safety level model for accuracy—especially those discussed in this objective. Provide guidance to buying activities for properly updating factors and make sure updated factors are processed in the automated system.
Development and Integration of Automatic Identification Technology Into Logistics Processes (A-2003- 0192-AML, March 21, 2003)	For the Assistant Secretary of the Army (Acquisition, Logistics and Technology)	1. Issue written policy prescribing the specific roles and responsibilities, processes, and key management controls for developing and integrating automatic identification technology into logistics processes. As a minimum, include requirements for funding, milestone decisions, in-process reviews, test and evaluation plans, life-cycle cost estimates, benefit analyses, coordination with other system developments, and transfer of finished products. Also, consider subjecting the Army's development of automatic identification technology to the prescribed acquisition procedures of AR 70-1.
		2. Prepare a business case analysis for each automatic identification technology application that the Army has ongoing and planned. Adjust applications, if appropriate, based on the results of the business case analyses.
		3. Establish a central oversight control within the Army for automatic identification technology. As a minimum, set up a process to: • monitor all development and funding within the Army for automatic identification technology. • verify that similar developments aren't duplicative.
	For the Commander, U.S. Army Training and Doctrine Command	4. Update the operational requirements document for automatic identification technology. As a minimum, determine the Army-wide need for standoff, in-the-box visibility and document the results in an updated operational requirements document.

Focus area	Theme	Status of recommendations
	Management oversight	Concurred, open
	Management oversight	Concurred, open
	Management oversight	Concurred, open
Asset visibility	Policy	Concurred, open
	Planning	Concurred, open
	Management oversight	Concurred, open
	Policy	Nonconcurred, open

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Report title, number, date	Recommendations	
Methodology for Computing Authorized Stockage Lists (A-2003 - 0106-AML, December 31, 2002)	For the Deputy Chief of Staff, G-4	Revise the current version of AR 710-2 to make Dollar-Cost Banding mandatory. Set a date for implementing Dollar-Cost Banding that will allow for gradual implementation by major commands, divisions, and other activities with supply support activities.
Repair Parts Support to Alert Forces (A-2002 -0423-AML, June 7, 2002)	For the Deputy Chief of Staff, G-4	A-1. Issue a message to all major command and subordinate activities informing them of problems and best practices identified during our audit. Use the draft advisory message as a guide for preparing the message (Annex E). Advise major commands and divisions responsible for maintaining units on alert status for rapid deployment in response to a crisis to ensure their local policies (such as major command regulations or division Readiness Standing Operating Procedures) include the provisions outlined in the message.
		A-2. Modify AR 710-2 to include guidance for major commands and subordinate activities responsible for maintaining units on alert status for rapid deployment to follow to ensure adequate repair parts support during the initial period of deployment. As a minimum, require that divisions with alert units have: • an assumption process in place that includes procedures for detailed planning of Class IX requirements. • a deployment notification process in place with procedures for conducting a summary review of Class IX stocks planned for deployment, considering such factors as the deployment environment, anticipated operating tempo, or intensity of the operations.
		A-3. Modify DA Pamphlets 710-2-1 and 710-2-2 to include detailed procedures for divisions to follow to ensure alert forces have adequate Class IX repair parts support. Review the best practices outlined in this report (and the draft advisory message in Annex E) as a starting point for revising the pamphlets.
		A-4. Update Field Manual 10-15 (Basic Doctrine Manual for Supply and Storage) to reflect current policies and address the key procedures discussed earlier in this report. Additionally, update the field manual to provide guidance on such issues as: • how to identify Class IX repair part requirements for alert forces. • how to identify repair parts shortages and whether to requisition shortage items. • what priority designator code to use for requisitioning parts during the assumption process and when in alert status. • when to use pre-packaged inventories. • when to pre-position parts at airfields (with alert force equipment).
		B-1. Include key management controls for alert forces in an appendix of AR 710-2 as prescribed by AR 11-2 or incorporate these controls into the existing Command Supply Discipline Program. Consider our list of key controls contained in Annex H to identify controls for inclusion in the regulation.

Focus area	Theme	Status of recommendations
Inventory management	Policy	Concurred, closed, implemented
Inventory management	Policy	Concurred, closed, implemented
	Policy	Concurred, closed, implemented
	Policy	Concurred, closed, implemented
	Policy	Concurred, closed, implemented
	Policy	Concurred, closed, implemented

Source Army Audit Agency.

Appendix IV

Supply Chain Management: Summary of Air Force Audit Agency Report Recommendations

Report title, number, date	Recommendations	
Adjusted Stock Levels (F2006-0010-FC4000, September 5, 2006)	The Director of Logistics Readiness, Air Force Deputy Chief of Staff for Installations, Logistics and Mission Support should:	a. Require Air Force personnel to delete all invalid adjusted stock levels identified in the audit.
		b. Establish procedures to improve adjusted stock level management. Specifically, revise Air Force Manual 23-110 to: • address the role of the Logistics Support Centers. Specifically, require Logistics Support Center personnel only approve base-initiated adjusted stock levels with sufficient justification on the Air Force Forms 1996, maintain all Air Force Forms 1996, and initiate the revalidation process. • improve the revalidation process. Specifically, the guidance should contain the following controls: • a revalidation checklist detailing procedures logistics personnel should use to revalidate adjusted stock levels. • ensure personnel accomplish the revalidation every 2 years. • a requirement to use Air Force Form 1996 to establish each adjusted stock level (including MAJCOM-directed adjusted stock levels) and include a detailed justification of the adjusted stock level purpose and duration.
Due Out To Maintenance Additives (F2006-0008-FC4000, August 22, 2006)	A.1. The Air Force Materiel Command Director of Logistics should:	a. Direct air logistics center shop personnel to delete the invalid Credit Due In From Maintenance details identified by audit (provided separately).
		b. Establish procedures requiring an effective quarterly Credit Due In From Maintenance Reconciliation. Specifically, Air Force Manual 23-110, US Air Force Supply Manual, and Air Force Materiel Command Instruction 23-130, Depot Maintenance Material Control, should require maintenance personnel to provide written documentation for each Credit Due In From Maintenance detail (i.e., supported by a "hole" in the end item). If such supporting documentation is not provided, require retail supply personnel to delete the unsupported Credit Due In From Maintenance details.
		c. Develop training for air logistics center shop personnel regarding proper spare part turn-in and Credit Due In From Maintenance Reconciliation procedures. Specifically, the training should define the various ways to turn spare parts in, and the differences between each method, to include the impact of improperly turning in spare parts. In addition, proper Credit Due In From Maintenance Reconciliation procedures should be covered in depth to include training on what constitutes appropriate supporting documentation.
	A.2. The Air Force Materiel Command Director of Logistics should:	a. Establish detailed procedures in Air Force Manual 23-110 on how an item manager should validate Due Out to Maintenance additives (i.e., what constitutes a Due Out To Maintenance additive, where the item manager can validate the additive, which priority backorders are associated with Due Out To Maintenance, etc.).

Focus area	Theme	Status of recommendations
Requirements forecasting	Management oversight	Concurred, open
	Policy	Concurred, open
Requirements forecasting	Management oversight	Concurred, open
	Policy	Concurred, open
	Planning	Concurred, open
	Policy	Concurred, open

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Report title, number, date	Recommendations	
		b. Direct Warner Robins Air Logistics Center to rescind local policy allowing item managers to increase the Due Out To Maintenance additive quantity to account for install condemnations.
		c. Issue a letter to item managers reemphasizing the requirement to document the methodology used to validate changes to Due Out to Maintenance additives, and retain adequate support for the Due Out To Maintenance additive quantity.
Reparable Item Requirements – Condemnations (F2006-0006-FC4000, April 18, 2006)	A.1. Air Force Materiel Command Directorate of Logistics and Sustainment personnel should update Air Force Materiel Command Manual 23-1, Requirements for Secondary Item, to:	a. Include instruction on what information should be developed and retained to support estimated condemnation rates. The guidance should include maintaining documentation on key assumptions, facts, specific details, decision makers' names and signatures, and dates of decisions so the condemnation percentage can be recreated.
		b. Establish sufficient guidance to instruct equipment specialists on managing parts replacement forecasting. Specifically, develop a standardized method to plan for replacement part acquisition while phasing out the old parts.
Shop Flow Time Data Accuracy (F2006-0004-FC4000, December 2, 2005)	The Air Force Materiel Command Director of Logistics and Sustainment should:	a. Correct the shop flow times for the 211 items with requirements discrepancies.
		b. Revise the process for computing shop flow times to adhere to DoD 4140.1-R, which requires the removal of awaiting maintenance and awaiting parts times from requirements computations.
		c. Evaluate the D200A Secondary Item Requirements System computer program to identify and correct the programming deficiencies adversely impacting the shop flow times computation.
		d. Complete the ongoing automation effort designed to eliminate manual processing errors.
Supply Discrepancy Report Program (F2006-0003-FC4000, November 15, 2005)	A.1. The Air Force Deputy Chief of Staff, Installations and Logistics, should:	a. Revise Air Force Manual 23-110 to: (1) Provide supply discrepancy report missing shipment procedures consistent with Air Force Joint Manual 23-215 guidance. (2) Establish supply discrepancy report dollar value criteria consistent with DoD 4500.9-R guidance.
		b. Establish base supply personnel training requirements on supply discrepancy report procedures and communicate those requirements to the field.
	A.2. The Air Force Deputy Chief of Staff, Installations and Logistics, should:	Request Defense Logistics Agency comply with procedures requiring depot supply personnel inspect packages and submit supply discrepancy reports when appropriate.
Readiness Spares Package Requirements (F2006-0002-FC4000, November 15, 2005)	A.1. The Air Force Deputy Chief of Staff, Installations and Logistics, should:	a. Revise Air Force Manual 23-110 to (1) describe more thoroughly documentation requirements for data elements used to compute readiness spares package item requirements and (2) require all readiness spares package managers to attend training that includes an adequate explanation of data element documentation requirements.

Focus area	Theme	Status of recommendations
	Policy	Concurred, open
	Management oversight	Concurred, open
Requirements forecasting	Policy	Concurred, open
	Policy	Concurred, open
Requirements forecasting	Process	Concurred, open
	Process	Concurred, open
	Management oversight	Concurred, open
	Process	Concurred, open
Materiel distribution	Policy	Concurred, open
	Planning	Concurred, open
	Management oversight	Concurred, open
Requirements forecasting	Policy	Concurred, open

(Continued From Previous Page)

Report title, number, date	Recommendations	
		b. Upgrade the Weapons System Management Information System Requirements Execution Availability Logistics Model to (1) accept mechanical data element transfers directly from other source systems and (2) prompt readiness spares package managers to input documentation notations supporting the rationale of changes in readiness spares package data elements.
Depot Stock Level Days (F2006-0001-FC4000, November 9, 2005)	A.1. The Air Force Materiel Command Directorate of Logistics and Sustainment personnel should:	a. Reduce the stock level day standard value from 10 days to 4 days in the D200A Secondary Item Requirements System.
		b. Develop and implement an automated method in the Advanced Planning and Scheduling system to measure the actual order and ship time needed to replenish depot level maintenance serviceable stock inventories.
		c. Develop and implement an interim method to measure or estimate depot order and ship time until an automated method is developed.
Cargo Processing (F2005-0007-FC4000, July 14, 2005)	A.1. The Deputy Chief of Staff, Installations and Logistics, Directorate of Logistics Readiness should require the Distribution and Traffic Management Division to:	a. Direct Transportation Management Office personnel to communicate to the consignors the cost and timing benefits to move shipments via door-to-door commercial air express carrier service when eligible based on DoD and Air Force guidance. If the consignor refuses the cost-effective mode, require a waiver letter expressing the need to use the Air Mobility Command carrier.
		b. Develop criteria to allow consignors to adequately identify priority requirements and assign appropriate priority designator codes when shipping assets via Air Mobility Command airlift. This criteria should be included in Air Force Instruction 24-201.
		c. Instruct Transportation Management Office personnel to properly review all shipping documentation to ensure all required information is completed by the consignor prior to accepting cargo for movement to the Air Mobility Command aerial port.
Mission Direct Additive Requirements (F2005-0006-FC4000, July 11, 2005)	A.1. The Air Force Materiel Command Director of Logistics and Sustainment should:	a. Establish procedures to properly budget for delayed discrepancy repair requirements by accounting for the eventual return and repair of unserviceable items in the requirements/budget process starting with the March 2005 computation cycle.
		b. Develop procedures or include an edit in the new system that flags additives and prompts the item manager to perform thorough reviews of additive requirements.
		c. Develop a process that requires program managers, item managers, and other applicable program directorate personnel to periodically review program and mission direct additive requirements to verify that duplication has not occurred.

Focus area	Theme	Status of recommendations
	Process	Concurred, open
Requirements forecasting	Process	Concurred, open
	Process	Concurred, open
	Process	Concurred, open
Materiel distribution	Management oversight	Concurred, open
	Policy	Concurred, open
	Management oversight	Concurred, open
Requirements forecasting	Process	Concurred, closed, implemented
	Process	Concurred, open
	Process	Concurred, open

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Report title, number, date	Recommendations	
		d. Inform all item managers and air logistics center managers that it is an inappropriate use of mission direct additives to retain excess inventory or preclude contract terminations. Additionally, reiterate regulatory guidance delineating the approved process for retaining excess materiel and preventing contract terminations.
Low Demand Item Requirements Computation Accuracy (F2005-0005-FC4000, March 18, 2005)	A.1. The Air Force Materiel Command Director of Logistics and Sustainment should:	a. Direct item managers to correct erroneous requirements identified during this review.
		b. Revise Air Force Materiel Command Manual 23-1 to clarify procedures for adjusting low demand item requirements. Specifically, ensure the guidance clearly states item managers may restore previously decreased requirements to their original level.
Reparable Item Requirements - Repair Cycle Times (F2005-0004-FC4000, February 2, 2005)	A.1. The Air Force Materiel Command Director of Logistics and Sustainment should:	a. Direct item managers to correct all erroneous requirements computations and related budgets identified during this review.
		b. Revise Air Force Materiel Command Manual 23-1 to correct guidance conflicts. Specifically, ensure the guidance only contains the correct standards requirements (3 days for base processing times and 10 days for reparable intransit times).
Indenture Relationship Impact on Secondary Item Requirements Computations (F2004-0006-FC4000, May 21, 2004)	A.1. The Air Force Materiel Command Director of Logistics should revise Air Force Materiel Command Manual 23-1 to:	a. Require item managers review and identify excess next higher assemblies that could be used to satisfy indentured item repair, as well as buy, requirements.
		b. Provide specific procedures for item managers to follow to satisfy the indentured item buy and repair requirements.
	A.2. The Air Force Materiel Command Director of Logistics should:	Revise training, and then train item managers to use indentures system data to identify excess next higher assemblies that could be used to satisfy indentured item requirements.
	B.1. The Air Force Material Command Director of Logistics should:	a. Require equipment specialists correct inaccurate indentures system data.
		b. Publish the draft guidance requiring equipment specialists ensure indentures system data accuracy.
		c. Train equipment specialists to maintain indentures system data accuracy.
Contractor Assets and Price Controls (F2004-0005-FC4000, May 10, 2004)	The Air Force Materiel Command Director of Logistics should:	a. Collect the unserviceable parts identified during the audit from the contractors or adjust the price of those parts (FY 2000-2002, $238.9 million and estimated FY 2003, $79.6 million).
		b. Establish a mechanism to track the issue and return of parts issued to customers who subsequently provide those parts to contractors as prescribed in Air Force Manual 23-110, Volume I, Part 3, Chapter 7.
		c. Either revise the policy to issue parts to customers who subsequently provide those parts to contractors at standard price or develop a due-in-from-maintenance-like control to adjust the part's price if the unserviceable parts are not returned.

Focus area	Theme	Status of recommendations
	Management oversight	Concurred, closed, implemented
Requirements forecasting	Management oversight	Concurred, closed, implemented
	Policy	Concurred, closed, implemented
Requirements forecasting	Management Oversight	Concurred, closed, implemented
	Policy	Concurred, closed, implemented
Requirements forecasting	Management oversight	Concurred, open
	Process	Concurred, open
	Planning	Concurred, open
	Management oversight	Concurred, open
	Process	Concurred, open
	Planning	Concurred, open
Asset visibility	Process	Concurred, open
	Management oversight	Concurred, open
	Policy	Concurred, open

(Continued From Previous Page)

Report title, number, date	Recommendations	
Propulsion Requirements System Computation Accuracy (F2004-0003-FC4000, November 12, 2003)	A.1. The Deputy Chief of Staff, Installations and Logistics should:	a. Revise Air Force Instruction 21-104 to require engine managers to input a follow-on tasked unit into the requirements computation system as a single unit.
		b. Modify PRS software to compute spare engine needs based on the combined flying hours for follow-on tasked units.
Other War Reserve Materiel (F2003-0010-FC4000, May 2, 2003)	A.1. The Air Force Materiel Command Supply Management Division should:	a. Implement corrective software changes to the Secondary Item Requirements System and Central Secondary Item Stratification Subsystem systems to remove the Other War Reserve Materiel requirements from the Peacetime Operating Spares requirements and report Other War Reserve Materiel requirements separately.
		b. Implement interim procedures to remove Other War Reserve Materiel requirements from the Peacetime Operating Spares requirements and budget and report Other War Reserve Materiel requirements separately until they implement Recommendation A.1.a.
Programmed Depot Maintenance Materiel Support (F2003-0008-FC4000, February 21, 2003)	A.1. The Air Force Materiel Command Director of Logistics should:	a. Direct maintenance management personnel to provide adequate oversight to ensure maintenance personnel turn in all aircraft parts to the Weapon System Support Center or courtesy storage areas.
		b. Revise Air Force Materiel Command Instruction 21-130 directing air logistics center Weapon System Support Center management to establish a supply inventory monitor to oversee maintenance work areas ensuring excess parts are turned in to Weapon System Support Center or courtesy storage areas.
	A.2. The Air Force Materiel Command Director of Logistics should:	Reemphasize the regulatory requirement (Air Force Materiel Command Instruction 21-130) to the air logistics center maintenance supervisors to assign a maintenance inventory control monitor to oversee the maintenance areas and ensure maintenance personnel tag and label all parts with the applicable aircraft number and the serviceability condition.
Air Mobility Command Forward Supply System (F2002-0009-C06100, September 26, 2002)	A.1. The Army Materiel Command Director of Logistics should:	Request that the Air Force Materiel Command Director of Logistics include Air Force Logistics Management Agency Stocking Policy 11 in the Readiness Base Leveling system to calculate C-5 forward supply location spare parts stock levels.
	B. 1. The Air Force Materiel Command Director of Logistics should:	Instruct item manager specialists that Air Force Form 1996 is not required to maintain Army Materiel Command Forward supply secondary item requirements in the Secondary Item Requirements System.
Asset Variance, (F2002-0008-C06200, September 18, 2002)	A.1. The Air Force Materiel Command Director of Logistics should:	a. Remove the D200A Secondary Item Requirements System automatic asset balance variance adjustment.
		b. Establish training requirements for air logistics center personnel on how to research and resolve D200A Secondary Item Requirements System asset balance variances.

Focus area	Theme	Status of recommendations
Requirements forecasting	Policy	Concurred, closed, implemented
	Process	Concurred, closed, not implemented
Requirements forecasting	Process	Concurred, closed, not implemented
	Process	Concurred, closed, implemented
Inventory management	Management oversight	Concurred, closed, implemented
	Policy	Concurred, closed, implemented
	Management oversight	Concurred, closed, implemented
Inventory management	Policy	Concurred, closed, not implemented
	Management oversight	Concurred, closed, implemented
Inventory management	Process	Concurred, closed, implemented
	Planning	Concurred, closed, implemented

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Report title, number, date	Recommendations	
		c. Revise the Air Force Materiel Command Manual 23-1 to require that item managers defer an item's buy and/or repair requirement until reconciling any asset balance variance greater than a specified threshold (variance percent, quantity, and/or dollar value).
		d. Establish asset balance variance oversight procedures to verify item managers resolve asset balance variances.
Air National Guard Small Arms Management (F2002-0005-C06100, May 20, 2002)	A.1. The Air National Guard, Deputy Chief of Staff, Logistics, should:	a. Address to subordinate units the importance of following Air Force equipment guidance related to small arms accountability, inventory, documentation, storage, and disposal, and the competitive marksmanship program.
		b. Request the Air National Guard Inspector General to include small arms accountability, inventory, documentation, storage, and disposal requirements as a special emphasis area in unit inspections.
	B.1. The Air National Guard, Deputy Chief of Staff, Logistics, should:	a. Direct all Air National Guard units revalidate small arms and conversion kit requirements using Allowance Standard 538.
		b. Recompute requirements (including M-16 conversion kits), reallocate small arms on-hand based on adjusted authorizations, and adjust requirements and requisitions, as needed, following the reallocations.
Material Management Transition (F2002-0006-C06200, April 29, 2002)	A.1. The Air Force Materiel Command Director of Logistics should revise Air Force Manual 23-110 to include specific material management transition guidance. Specifically, the guidance should require:	a. Transition gaining locations to have a training plan in place to ensure personnel are adequately trained before working asset buy and repair requirement computations.
		b. Air Force Materiel Command personnel to establish a transition team to monitor all stages of the transition, to include ensuring personnel are adequately trained and providing additional oversight over requirement computations worked by new item managers.

Focus area	Theme	Status of recommendations
	Policy	Concurred, closed, implemented
	Process	Concurred, closed, implemented
Inventory management	Management oversight	Concurred, closed, implemented
	Process	Concurred, closed, implemented
	Management oversight	Concurred, closed, implemented
	Process	Concurred, closed, implemented
Requirements forecasting	Policy	Concurred, closed, implemented
	Policy	Concurred, closed, implemented

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Report title, number, date	Recommendations	
Base-Level Reparable Item Transactions (F2002-0004-C06100, March 22, 2002)	A.1. The Deputy Chief of Staff, Installations and Logistics, should:	Revise Standard Base Supply System transaction processing procedures to automatically select special requisition Air Force routing identifier codes.
	B.1. The Deputy Chief of Staff, Installations and Logistics should:	Issue guidance to base supply personnel reminding them of proper receipt transaction procedures.
	C.1. The Air Combat Command, Director of Maintenance and Logistics, should:	Discontinue the automated transaction deletion program since the revised Standard Base Supply System procedures render the program obsolete.
	C.2. The Deputy Chief of Staff, Installations and Logistics should:	a. Revise Air Force Manual 23-110 to direct working capital fund managers to input reversing entries that will correct erroneous transactions identified during monthly M01 list reviews.
		b. Direct all base supply working capital fund managers to: (1) Review the most current M01 list to evaluate the propriety of all transactions affecting the Purchases at Cost account. (2) Input reversing entries to correct any erroneous transactions identified during the M01 list review. This will correct all deficiencies, including those described in Results-A and Results-B.
Air Force Reserve Small Arms Management (F2002-0001-C06100, January 2, 2002)	A.1. The Air Force Reserve Command, Deputy Chief of Staff, Logistics, should:	a. Address to subordinate units the importance of following Air Force equipment guidance related to small arms accountability, inventory, documentation, storage, and disposal.
		b. Request the Air Force Reserve Command Inspector General to include small arms accountability, inventory, documentation, storage, and disposal requirements as a special emphasis area in unit inspections.
	B.1. Air Force Reserve Command, Deputy Chief of Staff, Logistics, should:	a. Request all Air Force Reserve Command units revalidate small arms and conversion kit authorizations using Allowance Standard 538.
		b. Recompute requirements (including M-16 conversion kits), reallocate small arms on-hand based on recomputed authorizations, and adjust requirements and requisitions, as needed, following the reallocations.
Unserviceable Secondary Item Control Activity Assets, (01062016, November 9, 2001)	A.1. The Air Force Materiel Command Director of Logistics should:	Finalize and issue the revised Air Force Manual 23-110 requiring personnel to identify and timely return secondary items to the primary control activity.
	B.1. The Air Force Materiel Command Director of Logistics should:	Finalize and issue the revised Air Force Manual 23-110 requiring personnel to research and validate credit due on repairable items returned to the primary control activity.

Focus area	Theme	Status of recommendations
Inventory management	Process	Concurred, closed, implemented
	Policy	Concurred, closed, implemented
	Process	Concurred, closed, implemented
	Policy	Concurred, closed, implemented
	Management Oversight	Concurred, closed, implemented
Inventory management	Management oversight	Concurred, closed, implemented
	Management oversight	Concurred, closed, implemented
	Management oversight	Concurred closed, implemented
	Process	Concurred, closed, implemented
Inventory management	Policy	Concurred, closed, implemented
	Policy	Concurred, closed, implemented

Source: Air Force Audit Agency

Supply Chain Management: Summary of Naval Audit Service Report Recommendations

Report title, number, date	Recommendations	
Hazardous Material Inventory Requirements Determination and Offloads on Aircraft Carriers and Amphibious Assault Ships (N2005-0027, February 17, 2005)	The Office of the Commander, U.S. Fleet Forces Command should:	1. Emphasize Chief of Naval Operations requirements that all ships maintain proper inventory levels based on authorized allowances and demand history.
		2. Emphasize Chief of Naval Operations and Naval Supply Systems Command internal control procedures to ensure inventory levels in the Hazardous Material Minimization Centers remain within the authorized limits, and return material exceeding requisitioning objectives to the supply system.
		3. Emphasize Chief of Naval Operations requirements that ships requisition only hazardous materials authorized for shipboard use, and return unauthorized material to the supply system.
		4. Enforce Naval Supply Systems Command requirements that ships prepare and submit Ship's Hazardous Material List Feedback Reports and Allowance Change Requests, whenever required.
	The Naval Supply Systems Command should:	5. Establish an interface between authorized allowance documents and the Type-specific Ship's Hazardous Material List to ensure that hazardous material items authorized for shipboard use also have authorized allowance levels.
		6. Establish procedures to validate Hazardous Material Minimization Centers low and high inventory levels with those inventory levels in Relational Supply for the same items to ensure Hazardous Material Minimization Centers high limits do not exceed Relational Supply high limits.
		7. Establish procedures that require unissued hazardous material in the Hazardous Material Minimization Centers be counted as on-hand inventory before reordering Relational Supply stock.
		8. Develop and implement a hazardous material usage database that accumulates and retains data on supply system hazardous material ordered and used by the ship for use in planning future hazardous material requirements.
		9. Establish procedures to ensure that Enhanced Consolidated Hazardous Material Reutilization and Inventory management Program Afloat Program technicians perform tasks in accordance with the Enhanced Consolidated Hazardous Material Reutilization and Inventory management Program Afloat Program Desk Guide.
		10. Establish a working group to determine the feasibility for the development of ship-specific allowance-control documents for all items managed in the Hazardous Material Minimization Centers not already on an approved allowance list.
	The Office of the Commander, U.S. Fleet Forces Command should:	11. Return the prohibited undesignated hazardous material items to the supply system for credit.

Focus area	Theme	Status of recommendations
Inventory management	Management oversight	Concurred, closed, implemented
	Management oversight	Concurred, closed, implemented
	Management oversight	Concurred, closed, implemented
	Management oversight	Concurred, closed, implemented
	Process	Concurred, closed, implemented
	Process	Concurred, closed, implemented
	Process	Concurred, closed, implemented
	Process	Concurred, open
	Process	Concurred, closed, implemented
	Planning	Concurred, closed, implemented
	Process	Concurred, closed, implemented

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Report title, number, date	Recommendations	
	The Naval Sea Systems Command, with the assistance of Naval Supply Systems Command should:	12. Establish formal written guidance stating what system allowance list hazardous material is designated for and their current quantities allowed. Guidance should include requisitioning metrics that cross check hazardous material items against designated system designs as generated by Naval Inventory Control Point and Naval Surface Warfare Center Carderock Division – Ship System Engineering Station, technical manuals, and one-time General Use Consumable List.
		13. Clarify Naval Sea Systems Command Instruction 4441.7B/Naval Supply Systems Command Instruction 4441.29A to measure the quality of hazardous material load outs instead of the quantity or percentage of hazardous material loaded on ships.
	The Office of the Supervisor of Shipbuilding, Conversion, and Repair Newport News should:	14. Discontinue requisitioning aircraft cleaning, maintenance, and preservation hazardous material for actual aircraft before Post Shakedown Availability.
		15. Establish formal written local procedures that require detailed support, justification, and audit documentation for system validation on all hazardous material requisitions received from ship personnel after Load Coordinated Shipboard Allowance List delivery. This support should indicate the specific system the item is required for and the document numbers for Preventative Maintenance Schedule, Maintenance Request Cards, Allowance Equipage List, Allowance Parts List, General Use Consumables List, and technical manuals. An Allowance Change Request should be included, if applicable.
		16. Use Outfitting Support Activity when requisitioning all hazardous material items for ship initial outfitting to minimize local procurement as required by the Navy Outfitting Program Manual of September 2002.
	The Naval Supply Systems Command should:	17. Enforce compliance with established guidance for material offloads to ensure a uniform use of DD Form 1348 documents among ships and the proper processing of Transaction Item Reporting documents to ensure inventory accuracy.
		18. Update the Enhanced Consolidated Hazardous Material Reutilization and Inventory management Program Afloat Program Desk Guide to include specific requirements for the Enhanced Consolidated Hazardous Material Reutilization and Inventory management Program Afloat Program technician when offloading Naval Supply Systems Command-owned hazardous material.
Aircraft Engine/Module Containers (N2004-0029, February 18, 2004)	The Naval Inventory Control Point should:	1. In coordination with Naval Air Systems Command, update policy and procedures issued to field activities on managing and reporting aircraft engine/module container inventory.
		2. Require Fleet activities to provide a daily transaction item report of all intra-activity receipts and issues of engine/module containers to item managers.
		3. Establish controls to ensure containers are not procured in excess of requirements.

Focus area	Theme	Status of recommendations
	Policy	Concurred, closed, implemented
	Policy	Concurred, open
	Process	Concurred, closed, implemented
	Process	Concurred, closed, implemented
	Process	Concurred, closed, implemented
	Management oversight	Concurred, closed, implemented
	Policy	Concurred, closed, implemented
Inventory management	Policy	Concurred, closed, implemented
	Management oversight	Nonconcurred, closed, implemented
	Management oversight	Concurred, closed, implemented

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Report title, number, date	Recommendations	
		4. Include the Aircraft Engine Container Program as an assessable unit in Naval Inventory Control Point's Management Control Program.
	The Naval Air Systems Command should:	5. Fully fund the engine/module repair container program in accordance with requirements generated by Naval Inventory Control Point.
		6. Report any engine/module containers costing $5,000 or more in the Defense Property Accounting System.
	The Naval Inventory Control Point and Naval Air Systems Command should:	7. Require Naval Aviation Depots, Aircraft Intermediate Maintenance Depots, and Fleet activities to perform periodic inventories of engine/module containers, and report the results to Naval Inventory Control Point's item managers.
The Norway Air-Landed Marine Expeditionary Brigade Prepositioning Program (N2003-0079, September 2, 2003)	The Commandant of the Marine Corps should:	1. Terminate the Norway Air-Landed Marine Expeditionary Brigade program.
		2. Prepare a comprehensive statement encompassing disposal costs, equipment condition, and status of outstanding procurements and repairs of the excess onhand ground equipment and supplies, and identify Norway Air-Landed Marine Expeditionary Brigade program items that would satisfy outstanding procurements and repairs for fiscal year 2003 and the out years.
		3. Cancel the planned modernization procurements associated with the replacement of Norway Air-Landed Marine Expeditionary Brigade equipment, subject to negotiated termination costs for one of the six modernization projects.
		4. Cancel all procurements that replenish Norway Air-Landed Marine Expeditionary Brigade preposition inventory shortages.
Department of the Navy Aircraft Engine and Component Requirements Determination Process (N2003-0041, April 29, 2003)	The Deputy Chief of Naval Operations, Warfare and Requisitions Programs should:	1. Perform analyses to establish validated engine readiness requirements, incorporate ready-for-training engine readiness rates for training aircraft engines, and establish separate requirements for different categories of aircraft (such as combat, support, and training).
		2. Formally document the engine requirements and supporting rationale in Department of the Navy guidance.
	The Deputy Chief of Naval Operations, Fleet Readiness and Logistics should:	3. Coordinate with Naval Inventory Control Point and Naval Air Systems Command to require more realistic parameter inputs to the Retail Inventory Model for Aviation while encouraging engine maintenance strategies that will ultimately reduce turn around time and increase reliability (mean time between removal).
		4. Issue written guidance to assign responsibility for calculating engine war reserve requirements and the need to compute additional war reserve engine/module requirements.
	The Deputy Chief of Naval Operations, Warfare Requirements and Programs should:	5. Adjust out-year F414-GE-400 engine and module procurement requirements (to be reflected in the President's 2004 Budget) to agree with Naval Inventory Control Point's revised Baseline Assessment Memorandum 2004 requirements.

Focus area	Theme	Status of recommendations
	Management oversight	Concurred, closed, implemented
	Process	Concurred, closed, implemented
	Management oversight	Concurred, open
	Management oversight	Concurred, closed, implemented
Inventory management	Process	Nonconcurred, closed, implemented
	Process	Nonconcurred, closed, implemented
	Process	Nonconcurred, closed, implemented
	Process	Nonconcurred, closed, implemented
Requirements forecasting	Process	Concurred, closed, implemented
	Process	Partially concurred, closed, implemented
	Process	Concurred, closed, implemented
	Policy	Concurred, closed, implemented
	Process	Concurred, closed, implemented

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Report title, number, date	Recommendations	
	The Commander, Naval Inventory Control Point should:	6. Reiterate Secretary of the Navy policy that documentation supporting official Baseline Assessment Memorandum submissions be retained for no less than 2 years.
	The Deputy Chief of Naval Operations, Fleet Readiness and Logistics should:	7. In coordination with Deputy Chief of Naval Operations, Warfare Requirements and Programs, establish policy and adjust the procurement strategy for F414-GE-400 engines and modules to procure (based on current audit analyses) approximately 30 percent whole engines and 70 percent separate engine modules and thereby improve the engine/module repair capability.
		8. Issue guidance requiring Naval Air Systems Command to determine, and annually reevaluate, the engine-to-module procurement mix for the F414-GE-400.
	The Commander, Naval Air Systems Command should:	9. Reduce out-year AE1107C spare engine procurement by 12 (changed to 8 after receipt of management comments) through fiscal year 2008.
		10. Adhere to the Chief of Naval Operations-approved model (Retail Inventory Model for Aviation) for calculations of spare engine requirements.
	The Deputy Chief of Naval Operations, Warfare Requirements and Programs should:	11. Adjust planned out-year Aircraft Procurement, Navy-6 (APN-6) procurement requirements to reduce the quantities of T700-401C Cold and Power Turbine Modules by 10 each.
Marine Corps Equipment Deployment Planning (N2002-0054, June 12, 2002)	The Commandant of the Marine Corps should:	1. Validate the Time-Phased Force Deployment Database equipment requirements and determine how the Marine Corps will source (make available) the equipment required and determine if the equipment required is on the unit's table of equipment.
		2. Evaluate the Asset Tracking Logistics and Supply System II+ to determine if it adequately meets user needs and, if not, take sufficient action to correct identified deficiencies.
		3. Perform onsite technical assessments to determine the extent of required maintenance/repair.
		4. Provide dedicated organic or contract resources to reduce maintenance backlogs.
		5. Establish an acceptable level of noncombat deadline equipment relative to the total combat deadline equipment and total equipment possessed and report outside the unit to the Marine Expeditionary Force commander. This would help ensure that the extent of nonmajor maintenance/repair requirements receives appropriate visibility and support requests for resources to reduce maintenance backlogs.

Focus area	Theme	Status of recommendations
	Policy	Concurred, closed, implemented
	Policy	Concurred, closed, implemented
	Policy	Concurred, closed, implemented
	Process	Partially concurred, closed, implemented
	Process	Partially concurred, closed, implemented
	Process	Concurred, closed, implemented
Requirements forecasting	Process	Concurred, closed, implemented
	Management oversight	Concurred, closed, implemented
	Process	Nonconcurred, closed, implemented
	Process	Concurred, closed, implemented
	Process	Concurred, open

Source Naval Audit Service

Supply Chain Management: Summary of Non-audit Organization Report Recommendations

Report title, author, date	Recommendations		Focus area	Theme

Defense Science Board Summer Study on Transformation: A Progress Assessment, Volume 1
Office of the Under Secretary of Defense For Acquisition, Technology, and Logistics (February 2006)
	The Secretary of Defense should:	Create a Joint Logistics Command:
		• Responsible for global end-to-end supply chain,
		• That includes the U.S. Transportation Command mission, Defense Logistics Agency, service logistics and transportation commands as components to Joint Logistics Command with:
		  • Regional Combatant Commanders retaining operational control of the flow of in-theater logistics; and
		  • Program managers retaining responsibility for lifecycle logistics support plan and configuration control.
			All focus areas	Management oversight

	The Under Secretary of Defense for Acquisition, Technology, and Logistics should:	• Lead the work to create an integrated logistics information system. • Appoint an external advisory board of relevant industry experts to assist in guiding this effort.	All focus areas	Management oversight

Sustainment of Army Forces in Operation Iraqi Freedom
Major Findings and Recommendations RAND (2005)
	Specific recommendations made for tactical supply, theater distribution, strategic distribution, national- and theater-level supply, and command and control.
	Overarching recommendations:
		• Supply chain planning needs to be better integrated with a common supply chain vision.
		  • The newly designated distribution process owner (U.S. Transportation Command), in concert with the Army, the other services, and the Defense Logistics Agency, should develop and promulgate a common vision of an integrated supply chain. The complementary, not redundant roles, of each inventory location, distribution node, and distribution channel should be defined.
		  • Every joint logistics organization should examine and refine its processes to ensure detailed alignment with this vision. Review doctrine, organizational designs, training, equipment, information systems, facilities, policies, and practices for alignment with the supply chain vision and defined roles within the supply chain.
		  • The assumptions embedded within the design of each element of the supply chain with regard to other parts of the supply chain should be checked to ensure that they reflect realistic capabilities.
		  • Improve the joint understanding of the unique field requirements of the services. Likewise, the services need to understand the Defense Logistics Agency, the U.S. Transportation Command, and the General Services Agency processes and information requirements, as well as those of private-sector providers.
		  • Metrics should be adopted to maintain alignment with the vision.
			Distribution	Processes, performance tracking

(Continued From Previous Page)

Report title, author, date	Recommendations	Focus area	Theme
	• Logistics information systems need adequate levels of resources to provide non-line-of-sight mobile communications and effective logistics situational awareness in order to make new and emerging operational and logistics concepts feasible.	Distribution	Planning
	• Deliberate and contingency planning should include improved consideration of the logistics resource requirements necessary to execute sustained stability and support operations.	Distribution	Planning
	• Resourcing processes should consider uncertainty and implications of capacity shortages. • The flexibility of financial and resource allocation processes to rapidly respond to the need for dramatic changes in logistics capacity that sometimes arises from operational forecast error should be improved. • Logistics resource decisions should more explicitly consider how much buffer capacity should be provided in order to handle typical operational and demand variability without the development of large backlogs.	Distribution	Planning
	• Joint training should be extended to exercise the entire logistics system. • The Army should review all wartime and contingency processes from the tactical to the national level to determine which are not exercised in training with all requisite joint organizations participating. Such processes range from setting up tactical logistics information systems to planning a theater distribution architecture to determining national level spare parts distribution center capacity requirements. • Review which tasks and processes do not have adequate doctrine and mission training plans.	Distribution	Processes
	• Planning tools and organizational structures need to better support expeditionary operations. • Automation should more effectively support the identification of logistics unit requirements to support a given operation. • Unit "building blocks" should be the right size and modular to quickly and effectively provide initial theater capabilities and then to facilitate the seamless ramp-up of capacity and capability as a deployment matures.	Distribution	Planning

(Continued From Previous Page)

Report title, author, date	Recommendations		Focus area	Theme
Logistics Transformation: Next Steps to Interoperability and Alignment Lexington Institute (July 2005)	Conclusions and recommendations fall into three categories: programmatic, constructive, and operational. Programmatic conclusions and recommendations include:	• Existing funding mechanisms act as disincentives for joint logistics transformation and interoperability. If interoperability is important to transformation, the Office of the Secretary of Defense must fund it adequately and specifically, not just the component systems and organizations being integrated. Services and agencies will be reluctant to act against their own financial interest.	All focus areas	Management oversight
		• Title 10 can be used to prevent joint logistics transformation and interoperability, and needs clarification. If a Logistics Command is created, Title 10 may need to be amended.	All focus areas	Policy
		• Expanded Office of the Secretary of Defense leadership (beyond technical standardization) for joint logistics transformation is necessary to effect change. The Logistics Systems Modernization office efforts to realign business processes and to prioritize rapid return on investment initiatives are a good start and can be expanded.	All focus areas	Management oversight

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Report title, author, date	Recommendations	Focus area	Theme
	• A 4-Star Combatant Command – U.S. Logistics Command – in charge of logistics needs to be created, following the example of the U.S. Strategic Command. The responsibilities and enforcement powers of this Logistics Command may be significantly different than the U.S. Strategic Command model and require clear specification. Some responsibilities that this Command could undertake include: • Defining the distribution authorities, scenarios, business processes and process ownership at the "hand-off" from U.S. Transportation Command distribution to services distribution. • Developing doctrine and implementing joint business processes and rules for logistics interoperability between services, prioritizing known problem and conflict areas, and assigning ownership of business processes across the broader Supply Chain Operations Reference-defined supply chain. • Identifying budget requirements for logistics interoperability, and requiring logistics interoperability to be adequately funded and planned as part of the acquisition process of any logistics systems. • Accelerating interoperability testing of all Global Combat Support System implementations both within and across services and agencies, with a spiral development methodology. • Coordinating and communicating various isolated ongoing efforts in defining logistics Extensible Markup Language schema, business processes, databases, published web services and other joint logistics projects, with the Integrated Data Environment and Enterprise Resource Planning programs underway in the services and agencies. Where conflicts, redundancies or gaps are identified, the U.S. Logistics Command may function as an "honest broker" to develop an interoperable solution, or as a "sheriff" to enforce an interoperable solution.	All focus areas	Management oversight

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Report title, author, date	Recommendations		Focus area	Theme
	Constructive conclusions and recommendations include:	• A single logistics business process modeling needs to be created as a common reference, with the understanding that the modeling effort will be descriptive rather than prescriptive, due to Services' autonomy and the need to continue migrating legacy systems and building new logistics capability. Since all Services, Agencies and the Office of the Secretary of Defense are employing the Supply Chain Operations Reference Model for logistics, some degree of commonality should already exist. If the process modeling effort can build on existing U.S. Transportation Command/Defense Logistics Agency business process models, and incorporate business process models from each of the Services, it may be available earlier and used more effectively. A "greenfield" effort may have limited utility and never get beyond the requirements stage. Efforts to align logistics data are underway within the Joint Staff Logistics Directorate, and in the ongoing U.S. Transportation Command/Defense Logistics Agency modeling. The touchpoints between these alignment efforts and the actual Enterprise Resource Planning implementations within the services and joint agencies could be expanded. A variety of "to-be" logistics business process models must be generated to meet the requirements of varying future war fighting scenarios. For example, loss of space assets or enemy use of electromagnetic pulse will create significant constraints on logistics interoperability, and contingency business processes should be designed for those scenarios.	All focus areas	Processes
		• The logistics business process must be defined from end-to-end at the DOD level, and then Services and Agencies must assess how they will or will not align with those processes. Alignment, interoperability and jointness are consensus goals for system development, but some Service decisions not aligned with specific DOD level processes may provide net benefits and increase the robustness of the overall logistics System of Systems (the federated supply chain, or loosely-coupled approach). The ongoing questions that the U.S. Logistics Command will address are these: Should the default state for interoperability be alignment, with non-alignment developed as a scenario-based exception? Or should the default state for interoperability be non-alignment, with occasional moments of alignment (specific data feeds of a finite duration)?	All focus areas	Processes
	Operational conclusions and recommendations include:	• Some form of charter or statutory legislation is needed to prevent joint logistics transformation from backsliding into non-interoperable organizations and systems, when leadership changes.	All focus areas	Policy
		• Change management for joint logistics needs to be resourced specifically, in addition to current resources for logistics transformation within services and joint agencies.	All focus areas	Management Oversight

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Report title, author, date	Recommendations		Focus area	Theme
Beyond Goldwater-Nichols: U.S. Government and Defense Reform for a New Strategic Era - Phase 2 Report Center for Strategic and International Studies (July 2005)	The Beyond Goldwater-Nichols study team recommends:	• Fuse the logistics and transportation functions into an integrated U.S. Logistics Command.	All focus areas	Management oversight
		• Implement the Beyond Goldwater-Nichols Phase I recommendation to merge much of the Joint Staff Directorate of Logistics with its Office of the Secretary of Defense counterpart, the Deputy Under Secretary of Defense (Logistics & Material Readiness) into an office that reports to both the Under Secretary for Technology, Logistics, and Acquisition Policy.	All focus areas	Management oversight
Evaluating the Security of the Global Containerized Supply Chain RAND (2004)	Three recommendations suggest three complementary paths for improving the security of the global container supply chain while maintaining its efficiency:	• The public sector should seek to bolster the fault tolerance and resilience of the global container supply chain. • The closure of a major port-for whatever reason-would have a significant effect on the U.S. economy. The federal government should lead the coordination and planning for such events for two reasons. First, the motivation of the private sector to allocate resources to such efforts is subject to the market failures of providing public goods. Second, the government will be responsible for assessing security and for decisions to close and reopen ports.	Distribution	Policy
		• Security efforts should address vulnerabilities along supply-chain network edges. • Efforts to improve the security of the container shipping system continue to be focused on ports and facilities (although many ports around the world still failed to meet International Ship and Port Security Code guidelines even after the July 1, 2004, deadline.) Unfortunately, the route over which cargo travels is vast and difficult to secure. Measures to keep cargo secure while it is en route are essential to a comprehensive strategy to secure the global container supply chain.	Distribution	Planning
		• Research and development should target new technologies for low-cost, high-volume remote sensing and scanning. • Current sensor technologies to detect weapons or illegal shipments are expensive and typically impose significant delays on the logistics system. New detection technologies for remote scanning of explosives and radiation would provide valuable capabilities to improve the security of the container shipping system.	Distribution	Planning

(Continued From Previous Page)

Report title, author, date	Recommendations		Focus area	Theme
Final Report: Intra-Theater Logistics Distribution in the CENTCOM AOR Army Science Board FY2004 Task Force (October 2004)	Specific recommendations made for theater opening and logistics operations, Deployment Distribution Operation Center, Radio Frequency Identification and in-transit visibility	• Doctrine and structure: • Codify in joint doctrine the distinction between joint theater level logistics and Army/Land component logistics requirements and the need for a joint theater-level logistics commander. • Document a Joint Theater Sustainment Command and assign to Combatant Commands.	All focus areas	Management oversight
		• Implement useful practices of other services.	All focus areas	Processes
		• Don't preclude early use of Logistics Civilian Augmentation Program.	All focus areas	Processes
		• Complete a thorough business-based cost/benefit analysis of Radio Frequency Identification before spending more money on it.	All focus areas	Planning
Objective Assessment of Logistics in Iraq Deputy Under Secretary of Defense (Logistics and Materiel Readiness) and Joint Staff (JSJ4) Sponsored Assessment to Review the Effectiveness and Efficiency of Selected Aspects of Logistics Operations During Operation Iraqi Freedom (March 2004)	Summary of recommendations:	• Make directive authority for the Combatant Command real. Joint doctrine must: • Be prescriptive in its language, purging words like "should" and "attempt" and replacing them with specific direction. • Be joint and comprehensive. It must explicitly address the joint organizational structure and staffing, develop and institutionalize joint processes and procedures, and specifically require, not assume, the necessary communications infrastructure and information tools to support this vision. • Support an expeditionary logistics capability to enable rapid deployment and sustainment of flexible force structures in austere theaters around the globe. • Reconcile with the emerging concepts of net-centric warfare and sense and respond logistics, balancing past lessons with the needs for the future. Joint doctrine must be based on today's capabilities, not tomorrow's promises. • Continue to identify the combatant commander as the locus of control for logistics in support of deployed forces, and specify the tools, forces, processes, and technologies required from supporting commands.	Distribution	Management oversight

(Continued From Previous Page)

Report title, author, date	Recommendations	Focus area	Theme
	• Develop a true expeditionary logistics capability. • Develop logistics systems able to support expeditionary warfare. Logistics systems must be designed, tested, and developed to support a mobile, agile warfighter. • Logistics capabilities need to be native to an expeditionary unit for swift and agile deployment. The people, equipment, and systems that accompany these small, cohesive units must be able to integrate data within the services and commands as well as among the coalition partners. • Logistics communications planning and infrastructure are an integral part of any operation, and must be robust, fully capable, and deployable in both austere to developed environments. Planning and development of the required infrastructure must consider the issues of bandwidth, mobility, security and aggregation of logistics data.	Distribution	Planning
	• Retool the planning processes. • A follow-on replacement for the current Time-Phased Force and Deployment Data /Joint Operation Planning and Execution System process is required, with the necessary improvements in task structures and planning speed. This process should directly drive sustainment planning, including acquisition and distribution decisions. • The challenge of requirements identification and fulfillment in a deployed environment is a joint challenge. Planning tools must be developed that recognize and fuse the consumption of materiels and fulfillment of warfighter requirements across the joint force. • The speed and flexibility of future operations demand that a closer and more dynamic relationship be developed with suppliers in the industrial base and prime vendor partners.	Distribution	Planning, Processes
	• Create an integrated theater distribution architecture • Theater distribution capability must be embedded in a permanent organization within the theater or at least rapidly deployable to any global location. The balance of reserve forces and the implications of the activation cycle must be considered in the development of this organizational structure and manning. • The need for a joint in-theater distribution cross dock, staging, and break-bulk operation must be explicitly recognized in every Combatant Command Area of Responsibility. Rapid maneuver and task reorganization precludes a 100% "pure pallet" shipment. Retrograde and reverse logistics capabilities must also be embedded. • Leadership must recognize that the growth and development of "joint logisticians" who can operate and lead effectively in the theater environment will take time and effort, potentially altering established career progression plans.	Distribution	Planning

(Continued From Previous Page)

Report title, author, date	Recommendations	Focus area	Theme

	• Resolve the technology issues.
	  • Rationalize logistics systems. Current battlefield and deployment realities include the existence of multiple systems for logistics support. DOD must complete and deploy an integrated architecture, including operational, systems, technical, and data elements to streamline the systems capabilities to the joint warfighter, and manage the portfolio of systems to eliminate those that cannot support the future state.
	  • Create visibility within logistics and supply systems that extends to the tactical units. Today's warfighting mission includes mobile expeditionary engagements. Support systems need to include the ability to communicate and synchronize with rear support units and systems 24 hours a day, 365 days a year in both austere and developed environments.
	  • Ensure communications capability and availability for logistics, the environment. Logistics is an information-intensive function with constant requirements for updated information. Logistics support planning needs to include communications-level planning and should be completed before deployment.
		Distribution	Processes

	• Development of the foundational role of the Distribution Process Owner.
	  • The Distribution Process Owner concept must be implemented swiftly and should recognize the potential resource requirements in the near- and mid-term to complete this task. This is a necessary first step, addressing distribution challenges, and should facilitate the establishment of an integrated, end-to-end logistics architecture, eliminating the confederation of stovepipes.
	  • Financial and transactional systems should not be a hindrance to going to war: They must be designed so that the transition from peace to war is seamless; the ability to employ these systems in a deployed environment must take precedence over garrison requirements. More emphasis needs to be placed on managing retrograde and repairables.
	  • Processes must be synchronized and integrated across the stovepipes.
		Distribution	Planning, Processes

(Continued From Previous Page)

Report title, author, date	Recommendations		Focus area	Theme
		• Synchronize the chain: from Continental United States to Area of Responsibility. • Capacities across the distribution nodes and distribution links, and across the entire logistics network but particularly in theater, must be reviewed, understood, and actively managed. The ability to determine and manage practical and accurate throughput capacities for air and seaports, along with an understanding of the underlying commercial infrastructure is essential to future planning. The ability to evaluate possible scenarios for host nation support is also critical.	Distribution	Processes
		• Deploy Performance Based Logistics agreements more comprehensively. • Standardize Performance Based Logistics implementation. Implementation of Performance Based Logistics must become more standard to prevent confusion with other contractor support services and activities. To the extent possible, common metrics and terms must be developed and applied. • Implement Performance Based Logistics across total weapons systems. • Support broad end-to-end application. Much integration and synchronization is required to ensure full system synchronization of performance metrics but the end capability of tracking total system performance to both cost and "power by the hour" is a significant potential advancement in warfighter support.	Distribution	Processes, performance tracking
		• Make Radio Frequency Identification real. • Extend Radio Frequency Identification to the warfighter. Asset tracking system capabilities, infrastructure, and support must extend to the farthest reaches of the logistics supply chain, even in austere environments.	Asset Visibility	Planning
TRANSCOM-DLA Task Group Defense Business Practice Implementation Board (June 17, 2003)	The task group developed 3 summary recommendations:	• Do not combine U.S. Transportation Command and Defense Logistics Agency. • Roles, missions and competencies of the two organizations are too diverse to create a constructive combination. • Organizational merger would not significantly facilitate broader transformational objectives of supply chain integration. • Both organizations perform unique activities/functions in the supply chain. The real problem is not that the two organizations are separate, but that their activities are not well integrated.	Distribution	Management oversight

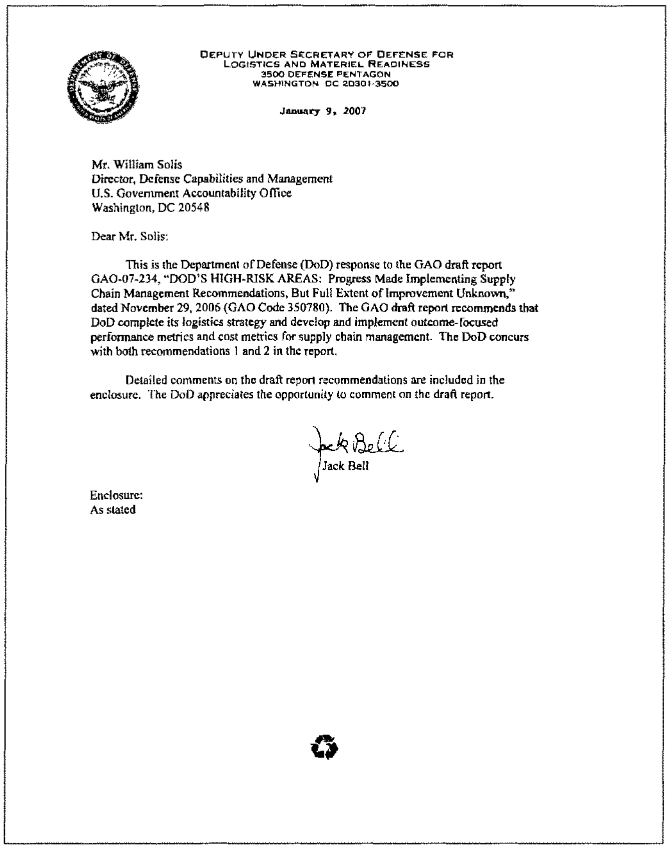
(Continued From Previous Page)

Report title, author, date	Recommendations	Focus area	Theme
	• Elevate leadership for Department of Defense global supplies chain integration. • Designate a new Under Secretary of Defense for Global Supply Chain Integration reporting directly to the Secretary of Defense. • Ensure the Global Supply Chain Integration is a civilian with established credibility in the field of supply chain management. • Establish the Global Supply Chain Integration's appointment as a fixed term for a minimum of 6 years. • Direct the U.S. Transportation Command and the Defense Logistics Agency to report to Global Supply Chain Integration. • Create a working relationship for the Global Supply Chain Integration with the Chairman of the Joint Chiefs of Staff. • Build the Global Supply Chain Integration's staff from existing staffs in the Office of the Secretary of Defense, the U.S. Transportation Command, and the Defense Logistics Agency.	All focus areas	Management oversight
	• Empower a Global Supply Chain Integrator with the required authority and control to effect integration. The Global Supply Chain Integrator should be granted authority to: • Build end-to-end integrated supply chains through the establishment of policies and procedures. • Enable privatization and partnering with global commercial distributors. • Oversee program management decisions related to major systems vendor support. • Establish/authorize organizations and processes to control flow during deployment/wartime scenarios. • Control budgetary decisions affecting the U. S. Transportation Command, the Defense Logistics Agency, and the distribution budgets of the services.	All focus areas	Management oversight

Source Defense Science Board, RAND, Lexington Institute, Center for Strategic and International Studies, Army Science Board FY2004 Task Force, Deputy Under Secretary of Defense and Joint Staff, Defense Business Practice Implementation Board

Appendix VII

Comments from the Department of Defense



DEPUTY UNDER SECRETARY OF DEFENSE FOR
LOGISTICS AND MATERIEL READINESS
3500 DEFENSE PENTAGON
WASHINGTON DC 20301-3500

January 9, 2007

Mr. William Solis
Director, Defense Capabilities and Management
U.S. Government Accountability Office
Washington, DC 20548

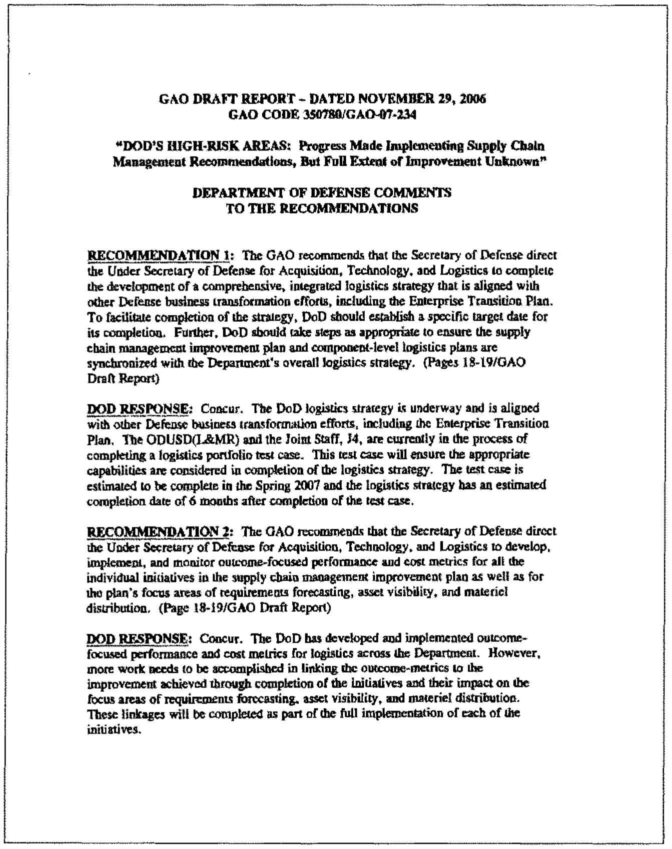
Dear Mr. Solis:

This is the Department of Defense (DoD) response to the GAO draft report GAO-07-234, "DOD'S HIGH-RISK AREAS: Progress Made Implementing Supply Chain Management Recommendations, But Full Extent of Improvement Unknown," dated November 29, 2006 (GAO Code 350780). The GAO draft report recommends that DoD complete its logistics strategy and develop and implement outcome-focused performance metrics and cost metrics for supply chain management. The DoD concurs with both recommendations 1 and 2 in the report.

Detailed comments on the draft report recommendations are included in the enclosure. The DoD appreciates the opportunity to comment on the draft report.

Jack Bell
Jack Bell

Enclosure:
As stated



GAO DRAFT REPORT – DATED NOVEMBER 29, 2006
GAO CODE 350780/GAO-07-234

"DOD'S HIGH-RISK AREAS: Progress Made Implementing Supply Chain Management Recommendations, But Full Extent of Improvement Unknown"

DEPARTMENT OF DEFENSE COMMENTS
TO THE RECOMMENDATIONS

RECOMMENDATION 1: The GAO recommends that the Secretary of Defense direct the Under Secretary of Defense for Acquisition, Technology, and Logistics to complete the development of a comprehensive, integrated logistics strategy that is aligned with other Defense business transformation efforts, including the Enterprise Transition Plan. To facilitate completion of the strategy, DoD should establish a specific target date for its completion. Further, DoD should take steps as appropriate to ensure the supply chain management improvement plan and component-level logistics plans are synchronized with the Department's overall logistics strategy. (Pages 18-19/GAO Draft Report)

DOD RESPONSE: Concur. The DoD logistics strategy is underway and is aligned with other Defense business transformation efforts, including the Enterprise Transition Plan. The ODUSD(L&MR) and the Joint Staff, J4, are currently in the process of completing a logistics portfolio test case. This test case will ensure the appropriate capabilities are considered in completion of the logistics strategy. The test case is estimated to be complete in the Spring 2007 and the logistics strategy has an estimated completion date of 6 months after completion of the test case.

RECOMMENDATION 2: The GAO recommends that the Secretary of Defense direct the Under Secretary of Defense for Acquisition, Technology, and Logistics to develop, implement, and monitor outcome-focused performance and cost metrics for all the individual initiatives in the supply chain management improvement plan as well as for the plan's focus areas of requirements forecasting, asset visibility, and materiel distribution. (Page 18-19/GAO Draft Report)

DOD RESPONSE: Concur. The DoD has developed and implemented outcome-focused performance and cost metrics for logistics across the Department. However, more work needs to be accomplished in linking the outcome-metrics to the improvement achieved through completion of the initiatives and their impact on the focus areas of requirements forecasting, asset visibility, and materiel distribution. These linkages will be completed as part of the full implementation of each of the initiatives.

Appendix VIII

GAO Contact and Staff Acknowledgments

GAO Contact

William M. Solis (202) 512-8365

Acknowledgments

In addition to the contacts named above, key contributors to this report were Thomas W. Gosling, Assistant Director, Susan C. Ditto, Amanda M. Leissoo, Marie A. Mak, and Janine M. Prybyla.

United States Government Accountability Office

GAO

Report to the Subcommittee on Oversight
of Government Management, the Federal
Workforce, and the District of Columbia,
Committee on Homeland Security and
Governmental Affairs, U.S. Senate

June 2007

DEFENSE LOGISTICS

Efforts to Improve Distribution and Supply Support for Joint Military Operations Could Benefit from a Coordinated Management Approach

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GAO-07-807

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Highlights

[illegible]

Why GAO Did This Study

[illegible]

What GAO Recommends

[illegible]

[illegible]

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June 2007

DEFENSE LOGISTICS

Efforts to Improve Distribution and Supply Support for Joint Military Operations Could Benefit from a Coordinated Management Approach

What GAO Found

DOD has not developed a coordinated and comprehensive management approach to guide and oversee implementation of joint theater logistics across the department. Efforts to develop and implement joint theater logistics initiatives have been fragmented among various DOD components due largely to a lack of specific goals and strategies, accountability for achieving results, and outcome-oriented performance measures—key principles of sound management. Further complicating DOD's ability to adopt a coordinated and comprehensive management approach to joint theater logistics are the diffused organization of DOD's logistics operations, including separate funding and management of resources and systems, and changes in DOD's overall logistics transformation strategy. DOD is currently testing a new approach to managing joint capabilities and is considering a realignment of capabilities in its long-term logistics strategy, which could affect the future of joint theater logistics. Without a more coordinated and comprehensive approach to managing joint theater logistics, DOD lacks assurance that it is on the right path toward achieving this capability and that individual initiatives will collectively address gaps in logistics capabilities. Further, DOD will have difficulty achieving improvements in theater distribution and asset visibility associated with joint theater logistics.

DOD components have made progress developing and implementing joint theater logistics initiatives in the areas of distribution and supply support, but the department faces challenges that hinder its ability to realize the full benefits of these efforts. For example,

- While Joint Deployment Distribution Operations Centers have been established in each geographic combatant command to help manage supplies moving across the distribution system, senior commanders in Kuwait said achieving asset visibility has been difficult because of a lack of interoperability among information technology systems.
- Initiatives being developed to improve the coordination of surface transportation assets theaterwide also face challenges with issues of command and control, the availability of information technology tools, and potential duplication of responsibilities with other organizations.

Unless DOD successfully addresses these and other challenges GAO identified, the initiatives are not likely to significantly improve the ability of a joint force commander to effectively and efficiently direct logistics functions, including distribution and supply support activities, across the theater of operations to accomplish an assigned mission. Moreover, without addressing such challenges, DOD is likely to continue to experience some of the same types of distribution and asset visibility problems that have occurred during Operation Iraqi Freedom.

Contents

Letter 1

Results in Brief 3
Background 6
DOD Has Not Developed a Coordinated and Comprehensive Management Approach to Joint Theater Logistics 9
DOD Has Made Progress on Joint Theater Logistics Initiatives but Faces Challenges That Hinder Its Ability to Fully Realize the Benefits of These Efforts 19
Conclusions 51
Recommendations for Executive Action 52
Agency Comments and Our Evaluation 53
Scope and Methodology 54

Appendix I **Comments from the Department of Defense** 57

Appendix II **GAO Contact and Staff Acknowledgments** 59

Table

Table 1: Challenges Hindering DOD's Ability to Fully Implement Joint Theater Logistics Initiatives 19

Figures

Figure 1: Recent Strategic Planning Documents Addressing DOD Logistics 15
Figure 2: Military Storage Containers in Kuwait (October 2006) 27
Figure 3: Views of Container and Yard Storage at Army General Support Warehouse, Camp Arifjan, Kuwait (October 2006) 42
Figure 4: Exterior and Interior Views of Warehouses at the DLA Distribution Depot, Kuwait (October 2006) 43
Figure 5: Continuum of Logistics Command and Control Options Included in the Joint Experimental Deployment and Support Initiative 47

GAO
Accountability * Integrity * Reliability

United States Government Accountability Office
Washington, DC 20548

June 29, 2007

The Honorable Daniel K. Akaka
Chairman
The Honorable George V. Voinovich
Ranking Member
Subcommittee on Oversight of Government Management, the Federal Workforce, and the District of Columbia
Committee on Homeland Security and Governmental Affairs
United States Senate

The Department of Defense (DOD) experienced problems with logistics support and supply chain management during military operations in Iraq that impeded the timely delivery of supplies and contributed to shortages of items critical to the warfighter.[1] These problems—which affected both Army and Marine Corps ground forces—included an insufficient capability to provide support to combat forces during the early stages of the conflict, difficulties in distributing supplies within the theater of operations, and limitations in asset visibility.[2] Such problems also occurred during Operation Desert Shield/Desert Storm in 1991. During the 1990s, following the end of the Cold War, DOD reexamined the future threat environment that U.S. military forces could face and identified logistics capabilities that would be needed to support future military operations. One of these identified capabilities, joint theater logistics, is aimed at improving the ability of a joint force commander to direct various logistics functions, including distribution and supply support activities, across the theater of operations to accomplish an assigned mission.

Under DOD doctrine for conducting joint military operations, the joint force commander is ultimately responsible for synchronizing all aspects of logistics necessary to support the mission.[3] However, the joint force commander relies on various DOD components, including the military services, Defense Logistics Agency (DLA), and U.S. Transportation Command, to provide the logistics resources and systems needed to support U.S. forces. Various provisions of Title 10, U.S. Code establish responsibilities and authorities for supplying and equipping the armed forces.[4] These and other Title 10 functions are promulgated by DOD through directives.[5] Implementing joint theater logistics involves harnessing these diffuse resources and systems, which are not integrated but rather separately funded and managed across DOD's components.

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[1] DOD defines logistics as the science of planning and carrying out the movement and maintenance of forces. Logistics includes six broad functional areas: supply, maintenance, transportation, civil engineering, health services, and other services. Supply chain management consists of processes and activities to purchase, produce, and deliver materiel—including ammunition, spare parts, fuel, food, water, clothing, personal equipment, and other items—to a force that is highly dispersed and mobile.

[2] DOD describes asset visibility as the ability to provide timely and accurate information on the location, quantity, condition, movement, and status of equipment and supplies.

The Joint Staff Logistics Directorate is DOD's lead proponent for joint theater logistics, and this effort involves developing and implementing a number of initiatives across the department. DOD believes joint theater logistics will improve the distribution and visibility of assets in a theater of operations. For this reason, DOD has listed joint theater logistics as one of several key initiatives in its supply chain management improvement plan. Because of long-standing systemic weaknesses that have been identified in our previous reports, we have designated DOD's supply chain management as a high-risk area. In 2005, DOD developed the supply chain management improvement plan to place it on a path toward removing supply chain management from our high-risk list.

At your request, we have examined DOD's efforts to develop and implement joint theater logistics as part of its plans for improving logistics support and supply chain management. Specifically, this report assesses (1) the extent to which DOD's approach to managing joint theater logistics departmentwide encompasses sound management principles and (2) the progress DOD has made in implementing joint theater logistics initiatives in the areas of distribution and supply support.

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[3] Joint Chiefs of Staff, Joint Publication 4-0, *Doctrine for Logistic Support of Joint Operations* (Apr. 6, 2000), p. I-3. (Hereafter cited as JCS Pub 4-0 (Apr. 6, 2000), p. XX).

[4] See 10 U.S.C. §§ 3013, 3062, 5013, 5062, 5063, 8013, and 8062.

[5] DOD Directive 5100.1, *Functions of the Department of Defense and Its Major Components* (Aug. 1, 2002) states that the military services are responsible for providing logistic support for service forces. DOD Directive 5105.22, *Defense Logistics Agency* (May 17, 2006), directs DLA, among other responsibilities and functions, to provide materiel commodities and supply chain management for items of supply and services. DOD Directive 5158.4, *United States Transportation Command* (Jan. 8, 1993), states that the command shall have combatant command over all transportation assets of the military departments, except for service-unique or theater-assigned assets.

To assess DOD's approach to managing joint theater logistics, we identified sound management principles based on prior work on organizational transformation and federal agency implementation of the Government Performance and Results Act.[6] We reviewed doctrine, regulations, guidance, plans, briefings, status reports, and other documents related to the development of joint theater logistics, logistics strategic planning, and supply chain management, to include reports by various audit and non-audit organizations that have assessed DOD's logistics operations. We also interviewed officials from the Joint Staff and the Office of the Secretary of Defense who are involved with joint theater logistics and logistics transformation. To assess DOD's progress in implementing joint theater logistics initiatives, we visited the five geographic combatant commands, the subordinate unified command in Korea, military service component commands in three theaters, and operational units in Germany, Korea, and Kuwait. We met with military service officials at headquarters offices, as well as at selected commands and reserve components. We also visited U.S. Transportation Command, U.S. Joint Forces Command, and DLA to obtain information on specific initiatives. In addition, we attended the out-brief for an Army conference on theater opening, reviewed after-action reports from exercises testing the initiatives, and analyzed lessons learned reports from Operation Iraqi Freedom. We determined that the data we used were sufficiently reliable for our purposes. Additional information on our scope and methodology is provided at the end of this letter. We conducted our review from July 2006 to April 2007 in accordance with generally accepted government auditing standards.

Results in Brief

DOD has not developed a coordinated and comprehensive management approach to guide and oversee implementation of joint theater logistics across the department. Efforts to develop and implement joint theater logistics initiatives have been fragmented among various DOD components due largely to a lack of specific goals and strategies, accountability for achieving results, and outcome-oriented performance measures—key principles of sound management. While DOD has broadly defined joint theater logistics as an adaptive ability to anticipate and respond to emerging theater logistics and support requirements, it has not developed specific goals and strategies linked to this vision. In addition, DOD has not assigned accountability for achieving results under joint theater logistics and has not developed outcome-oriented performance measures that would enable the department to know whether its efforts are fully and effectively achieving a joint theater logistics capability. Furthermore, the diffused organization of DOD's logistics operations, including separate funding and management of resources and systems, complicates DOD's ability to adopt a coordinated and comprehensive management approach to developing and implementing joint theater logistics capabilities. A number of studies that have assessed DOD's logistics operations have recommended changes to DOD's organizational structure and control of resources for providing joint logistics support to military operations. Moreover, changes in DOD's overall logistics transformation strategy have hampered its ability to adopt a coordinated and comprehensive management approach to joint theater logistics. Over the years, DOD has made a number of attempts to articulate a long-term strategy to guide logistics transformation, including joint theater logistics, but progress on these efforts has been hindered by differing visions within the department. DOD is currently testing a new approach to managing joint capabilities and is considering a realignment of capabilities in its long-term logistics strategy—efforts that could affect the future of joint theater logistics. Under this realignment, joint theater logistics may cease to exist as a stand-alone capability area; however, the tenets of joint theater logistics would be retained, and the functional areas associated with joint theater logistics would be integrated within the broader joint logistics portfolio. Without a coordinated and comprehensive approach to managing joint theater logistics, DOD lacks assurance that it is on the right path toward achieving this capability and that individual initiatives will collectively address gaps in logistics capabilities. Further, DOD will have difficulty achieving the desired improvements in distribution and asset visibility associated with joint theater logistics as portrayed in the supply chain management improvement plan. We are recommending that DOD develop a coordinated and comprehensive management approach to guide and oversee efforts across the department to improve distribution and supply support in a joint theater. In commenting on a draft of this report, DOD concurred with our recommendation.

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[6] Pub. L. No. 103-62 (1993).

Although a coordinated and comprehensive management approach does not exist, DOD components have made progress developing and implementing joint theater logistics initiatives in the areas of distribution and supply support; however, the department faces a number of challenges that hinder its ability to fully realize the benefits of these efforts. A notable improvement has been the establishment of Joint Deployment Distribution Operations Centers that can help joint force commanders synchronize the arrival of supplies into a theater and assist in other aspects of distribution and supply support. However, officials we interviewed said these operations centers alone will not resolve distribution and supply support problems. Other initiatives are at various stages of development and implementation as DOD experiments with new organizational arrangements, writes new concepts of operations, and revises doctrine. Despite this progress, DOD faces a number of challenges in fully developing and implementing joint theater logistics initiatives in the areas of distribution and supply support. Some of the challenges are as follows:

- DOD has established an expeditionary organization to manage the arrival of supplies moving into a theater during the early stages of a military operation, but Army officials have raised questions about the need for this new organization and the resources devoted to it, as well as about the command and control over this organization.
- While Joint Deployment Distribution Operations Centers have been established in each geographic combatant command to help manage supplies moving across the distribution system, senior commanders in Kuwait said achieving asset visibility has been difficult because of a lack of interoperability among information technology systems. We also found continuing problems with container management, although improvements have been made.
- Initiatives to improve the coordination of surface transportation assets theaterwide also face challenges with issues of command and control, the availability of information technology tools, and potential duplication of responsibilities with other organizations.
- Efforts to consolidate multiple storage and shipping activities in a theater have been implemented on a limited scale and additional consolidation opportunities may exist. During our site visits to Kuwait, we found that DLA and the Army were operating separate facilities that have the potential for consolidation, which could result in more efficient use of resources. Since our fieldwork was completed, DLA assessed ways to improve theater distribution and made recommendations to consolidate and relocate existing operations. Because this study was focused on the U.S. Central Command area of operations, we are recommending DLA undertake similar assessments within all the geographic combatant commands. In commenting on a draft of this report, DOD concurred with this recommendation.
- Finally, various options have emerged for improving the ability of a joint force commander to exercise command and control over joint theater

logistics functions. However, the military services have raised concerns about how their own roles and responsibilities for providing logistics support might be affected and have opposed expansion of the most robust command and control option that has emerged.

Unless DOD successfully addresses these challenges, the initiatives are not likely to significantly improve the ability of a joint force commander to harness the diffuse logistics resources and systems that exist within the department and effectively and efficiently direct logistics functions, including distribution and supply support activities, across the theater of operations to accomplish an assigned mission. Moreover, without addressing such challenges, DOD is likely to continue to experience some of the same types of distribution and asset visibility problems that occurred during Operation Iraqi Freedom.

Background

We have identified weaknesses in DOD's supply and distribution support in prior reports.[7] These weaknesses have affected the department's ability to meet its goal of delivering the "right items to the right place at the right time" to support the deployment and sustainment of military forces. One problem with logistics support has been an insufficient capability to support combat forces during the early stages of a conflict. In Operation Iraqi Freedom, for example, DOD's priority was to move combat forces into the theater first, with logistics personnel arriving later in the deployment. Because of the shortage of support personnel in theater, the forces experienced delays in receiving, storing, and distributing supplies. For example, early in Operation Iraqi Freedom, inefficient packaging and palletizing of air shipments created supply backlogs in Kuwait that delayed the delivery of supplies shipped by air to units in Iraq. Once in theater, mixed shipments had to be manually opened, sorted, and re-palletized at theater distribution points, causing additional delays in getting repair parts to their end users. Another problem has been limited visibility of assets within the distribution system. Incomplete radio frequency identification tags required logistics personnel to spend time opening and sorting the shipments, significantly increasing processing time. Additionally, logistics systems used to order, track, and account for supplies were not well integrated and could not provide the essential information to effectively manage theater distribution. Thus, we have indicated that materiel distribution and asset visibility are two key focus areas critical to resolving these supply and distribution problems.

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[7] GAO, *Defense Logistics: Preliminary Observations on the Effectiveness of Logistics Activities During Operation Iraqi Freedom*, GAO-04-305R (Washington, D.C.: Dec. 18, 2003); *Defense Logistics: Actions Needed to Improve the Availability of Critical Items during Current and Future Operations*, GAO-05-275 (Washington, D.C.: Apr. 8, 2005); and *Defense Logistics: DOD Has Begun to Improve Supply Distribution Operations, but Further Actions Are Needed to Sustain These Efforts*, GAO-05-775 (Washington, D.C.: Aug. 11, 2005).

Joint theater logistics is one of seven future logistics capabilities that DOD has grouped under the term "focused logistics." DOD has broadly defined joint theater logistics as an adaptive ability to anticipate and respond to emerging theater logistics and support requirements. In addition to joint theater logistics, focused logistics capabilities include joint deployment/rapid distribution, agile sustainment, operational engineering, force health protection, multinational logistics, and logistics information fusion. Together, these capabilities are intended to support an overall joint logistics capability, which DOD defines as "the capability to build effective, responsive, and efficient capacity into the deployment and sustainment pipeline; exercise control over the pipeline from end to end; and provide certainty to the supported joint force commander that forces, equipment, sustainment, and support will arrive where needed and on time." According to DOD, focused logistics can be achieved by transforming logistics capabilities. To succeed, these focused logistics capabilities must be fully integrated, expeditionary, networked, decentralized, adaptable, and capable of decision superiority. Further, they must support future joint operations that are continuous and distributed across the full range of military operations.

Since the 1990s, DOD has developed various strategic planning documents, such as Joint Vision 2010, which included focused logistics as a needed capability. In 2000, DOD incorporated joint theater logistics and other focused logistics capabilities in joint warfighting doctrine. In 2003, the department approved the joint functional concept for focused logistics.[8] In 2005, DOD issued its Focused Logistics Roadmap, presenting an "as is" compendium of programs and initiatives associated with the fiscal year 2006 President's Budget and aligned under the focused logistics capabilities. The "as is" roadmap was intended to complement previously published logistics strategies and to represent the portfolio of programs and initiatives for which the Focused Logistics Functional Capabilities

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[8] Joint functional concepts describe, and are used as a basis to shape, joint capabilities across the department.

Board[9] and Joint Staff Logistics Directorate have primary oversight responsibility. In 2006, DOD approved the Joint Logistics (Distribution) Joint Integrating Concept,[10] which complements the joint functional concept and calls for a joint deployment and distribution enterprise that is capable of providing joint force commanders with the ability to rapidly and effectively move and sustain forces in support of major combat operations or other joint operations. This document describes the enterprise as an integrated system of assets, materiel, personnel, leaders, organizations, procedures, tools, training, facilities, and doctrine that is expected to enable the joint force commander to minimize seams in the distribution pipeline. The joint deployment and distribution enterprise is expected to complement and augment service or joint force commander-unique distribution responsibilities and capabilities.

Distribution is part of the process and activities for managing the supply chain. According to joint doctrine, distribution is the process of synchronizing all elements of the logistics system to deliver the "right things" to the "right place" at the "right time." DOD's distribution system has two segments: strategic-national and theater. The strategic segment of this pipeline involves the movement of supplies from points outside a theater of military operations into the theater. The theater segment consists of distribution that occurs within a theater of military operations. The military services have the responsibility to organize, train, equip, and provide logistics support to their respective forces.[11] The military services and DLA manage supplies and provide for asset visibility. U.S. Transportation Command is responsible for providing transportation support, primarily strategic airlift and sealift, as well as in-transit asset visibility.[12] The geographic combatant commands are responsible for logistics in their theaters, to include managing and directing the theater distribution system.[13]

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[9] DOD has eight Functional Capabilities Boards that support the Joint Requirements Oversight Council and lead the capabilities assessment process.

[10] Whereas a joint functional concept is a broad description of joint force functions, a joint integrating concept is a description of narrowly focused operations or functions and is used to identify, describe, and apply specific capabilities.

[11] See 10 U.S.C. §§ 3013, 3062, 5013, 5062, 5063, 8013, and 8062.

[12] DOD defines in-transit visibility as the near-real-time capability to track logistic resources and transportation assets while they are mobile and underway.

In September 2003, the Secretary of Defense assigned new organizational responsibilities in the logistics area, including designating the Under Secretary of Defense (Acquisition, Technology, and Logistics) as the Defense Logistics Executive, and the Commander, U.S. Transportation Command, as the Distribution Process Owner. The Defense Logistics Executive has authority to address logistics and supply issues. The role of the Distribution Process Owner is to improve the efficiency and interoperability of the end-to-end distribution system. Prior to these new organizational designations, the Secretary of Defense designated U.S. Joint Forces Command as the Joint Deployment Process Owner, responsible for improving joint deployment and redeployment processes. The commanders of U.S. Joint Forces Command and U.S. Transportation Command—recognizing that many deployment and distribution processes are common and that both commands serve a common customer: the supported joint force commander—signed a joint vision statement in September 2006 to help guide their partnership as they work together to improve DOD's joint deployment and distribution.

DOD Has Not Developed a Coordinated and Comprehensive Management Approach to Joint Theater Logistics

DOD has not developed a coordinated and comprehensive management approach for guiding and overseeing the implementation of joint theater logistics across the department. While DOD intends joint theater logistics to improve the distribution and visibility of assets in theater, its current approach is not consistent with sound management principles that have been shown to be effective in accomplishing organizational transformation, and has led to fragmented efforts across components. In addition, changes in DOD's overall logistics transformation strategy have hampered DOD's ability to adopt a coordinated and comprehensive management approach to joint theater logistics. Without a coordinated and comprehensive approach, DOD will continue to face difficulties achieving improvements in theater distribution and asset visibility, which impair its ability to improve overall supply chain management.

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[13] Joint Chiefs of Staff, Joint Publication 4-01.4, *Joint Tactics, Techniques, and Procedures for Joint Theater Distribution* (Aug. 22, 2000), p. II-6.

DOD's Approach to Joint Theater Logistics Is Not Consistent With Sound Management Principles and Has Led to Fragmented Efforts

Our review of DOD's efforts to develop joint theater logistics showed that the department has taken a piecemeal approach rather than a coordinated and comprehensive approach that is consistent with sound management principles. DOD's current approach has led to fragmented efforts among components to develop and implement initiatives. Sound management principles, such as those used by leading organizations to transform their culture and embodied in the Government Performance and Results Act, include (1) specific goals and strategies, (2) accountability for achieving results, and (3) outcome-oriented performance measures. We have previously reported that organizations that have progressed toward the results-oriented framework of the Government Performance and Results Act have established performance goals for which they will be held accountable, determined strategies and resources to effectively accomplish the goals, and measured progress towards those goals. A focus on results, as envisioned by the Government Performance and Results Act, implies that collaboration is important to ensure that consistent and complementary goals and strategies for achieving results are developed and implemented across the enterprise. Performance metrics are critical for demonstrating progress toward achieving results and providing information on which to base organizational and management decisions. Further, outcome-focused performance metrics show results or outcomes related to an initiative or program in terms of its effectiveness, efficiency, or impact. When combined with effective leadership, these principles provide a framework to guide program efforts in a coordinated and comprehensive fashion and allow leadership to determine if these efforts are achieving the desired results. In contrast, an insufficient articulation of program goals and inadequate information on performance may be impediments to improving program efficiency and effectiveness.

DOD's approach to joint theater logistics is not consistent with these principles of sound management. First, while DOD has a broad definition of joint theater logistics, it has not articulated specific goals and strategies linked to this vision. For example, DOD's Focused Logistics Roadmap, supply chain management improvement plan, and other documents we reviewed do not contain specific goals and strategies for achieving joint theater logistics. DOD also has yet to identify the resources and time frames for fully implementing joint theater logistics. Moreover, DOD's description of joint theater logistics has not been consistent over time, which may affect its ability to develop specific goals and strategies. This issue is discussed later in this report.

Second, DOD has not assigned accountability for achieving results under joint theater logistics. Although the Joint Staff Logistics Directorate has been designated the lead proponent for joint theater logistics, no one entity within DOD has responsibility for coordinating and overseeing programs and initiatives related to joint theater logistics. In addition, while DOD has designated executive agents and process owners aimed at addressing logistics challenges that cut across the department, the roles and responsibilities among DOD components have not always been clearly delineated and may overlap. We have previously reported on problems DOD has experienced in defining accountability and authority for addressing supply distribution problems.[14] For example, although the Secretary of Defense in 2003 designated the Commander, U.S. Transportation Command, as DOD's Distribution Process Owner—with responsibilities for overseeing the overall effectiveness, efficiency, and alignment of DOD-wide distribution activities—DOD has yet to issue a directive defining the process owner's authority, accountability, resources, and responsibility.[15] Additionally, during our current review, service and combatant command officials had concerns with U.S. Transportation Command expanding beyond its traditional roles and responsibilities for strategic distribution, believing that there should be a hand-off of responsibilities once assets arrive in theater.

Furthermore, the diffused organization of DOD's logistics operations, including separate funding and management of resources and systems, complicates DOD's ability to adopt a coordinated and comprehensive management approach to developing and implementing joint theater logistics capabilities. Since 2003, a number of studies that have assessed DOD's logistics organization have recommended changes to DOD's organizational structure for providing joint logistics and supply support to military operations.[16] Some of these organizations have noted that control over resources is a critical issue to be addressed. For example, the Defense Science Board recommended creation of a Joint Logistics Command that would combine the missions of U.S. Transportation

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[14] GAO-05-775.

[15] In May 2006, the Deputy Secretary of Defense redesignated the Commander, U.S. Transportation Command as DOD's Distribution Process Owner. Under this redesignation, the mission of the Distribution Process Owner is to oversee the overall effectiveness, efficiency, and alignment of DOD-wide distribution activities and to establish concepts and operational frameworks relating to the planning and execution of DOD transportation operations.

[16] For more information on these recommendations, see GAO, *DOD's High-Risk Areas: Progress Made Implementing Supply Chain Management Recommendations, but Full Extent of Improvement Unknown*, GAO-07-234 (Washington, D.C.: Jan. 17, 2007).

Command, DLA, and service logistics commands. The Center for Strategic and International Studies also suggested the creation of a departmentwide logistics command responsible for end-to-end supply chain operations. Regarding resource allocation, it further stated that resources should be organized, managed, and budgeted largely along military service lines, but in those instances where joint capability needs are not being met with service-centric processes, the Secretary must turn to joint processes and entities for their realization. The Lexington Institute, which also recommended creation of a U.S. Logistics Command at the four-star level, concluded that Title 10 can be used to prevent joint logistics transformation and interoperability and may need to be amended in order to create a Logistics Command. The Lexington Institute also concluded that existing funding mechanisms act as disincentives for joint logistics transformation and interoperability. The Defense Business Practice Implementation Board, while not agreeing with the idea of combining U.S. Transportation Command and DLA, recommended that DOD elevate leadership for supply chain integration by designating a new Under Secretary of Defense who would have authority to direct integration activities, including control over budget decisions affecting these two components and the military services. While we noted that transformational changes such as those proposed by these organizations may not be possible without amending existing laws, the scope of our review did not include an assessment of these proposals or what changes, if any, would require congressional action.

On the basis of our prior work on DOD's approach to business transformation,[17] we have stated that DOD needs to establish a chief management official at an appropriate level with the authority to be responsible and accountable for enterprisewide business transformation, including business operations related to supply chain management. Also, in our report on 21st century challenges confronting the federal government,[18] we stated that DOD faces significant challenges in accomplishing its transformation goals and making improvements in key business areas such as supply chain management. We also suggested in that report that decision makers may need to reexamine fundamental aspects of DOD's programs by considering issues such as whether current organizations are aligned and empowered to meet the demands of the new security environment as efficiently as possible and what kinds of economies of scale and improvements in delivery of support services would result from combining, realigning, or otherwise changing selected support functions, including logistics.

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[17] GAO, *Defense Business Transformation: A Comprehensive Plan, Integrated Efforts, and Sustained Leadership Are Needed to Assure Success*, GAO-07-229T (Washington, D.C.: Nov. 16, 2006).

[18] GAO, *21st Century Challenges: Reexamining the Base of the Federal Government*, GAO-05-325SP (Washington, D.C.: Feb. 2005).

Third, DOD has not developed outcome-oriented performance measures for either joint theater logistics in general or for its specific initiatives. The supply chain management improvement plan lists potential metrics for joint theater logistics, but these have not been made into quantifiable, outcome-oriented measures. For example, the plan names visibility of logistics capabilities, logistics footprint,[19] and joint logistics and distribution planning improvement as three potential metrics that could be developed to track results and show the impact of joint theater logistics implementation. Other documents we reviewed, including a joint theater logistics implementation plan that was drafted in 2006 but not finalized, recognize a need to identify metrics for the specific tasks required to achieve the joint processes supporting joint theater logistics. However, these metrics have not been identified as yet.

Because DOD has lacked a coordinated and comprehensive approach to managing joint theater logistics, efforts to advance joint theater logistics across the department have been fragmented. While DOD has developed a series of initiatives to improve joint theater logistics, leadership on individual initiatives is dispersed among various DOD components. Many of these initiatives have been introduced by individual services, combatant commanders, and other DOD components without an overarching management approach for coordinating efforts. For example, of the four initiatives identified in the Focused Logistics Roadmap as supporting joint theater logistics, two have been submitted by U.S. Transportation Command, one has been developed by the Army, and another has been created by U.S. Joint Forces Command. During our field visits, DOD officials identified a number of other initiatives they had under way which they regarded as joint theater logistics. Specific examples of DOD's fragmented efforts to develop and implement joint theater logistics initiatives are discussed later in this report. This fragmented approach could lead to duplication of effort as well as capability gaps, diminishing the potential benefits of joint theater logistics. Without a coordinated and comprehensive approach that embodies sound management principles, DOD may be unable to fully implement initiatives and achieve this capability. As a result, DOD will have difficulty improving supply chain management in the areas of distribution and asset visibility associated with joint theater logistics.

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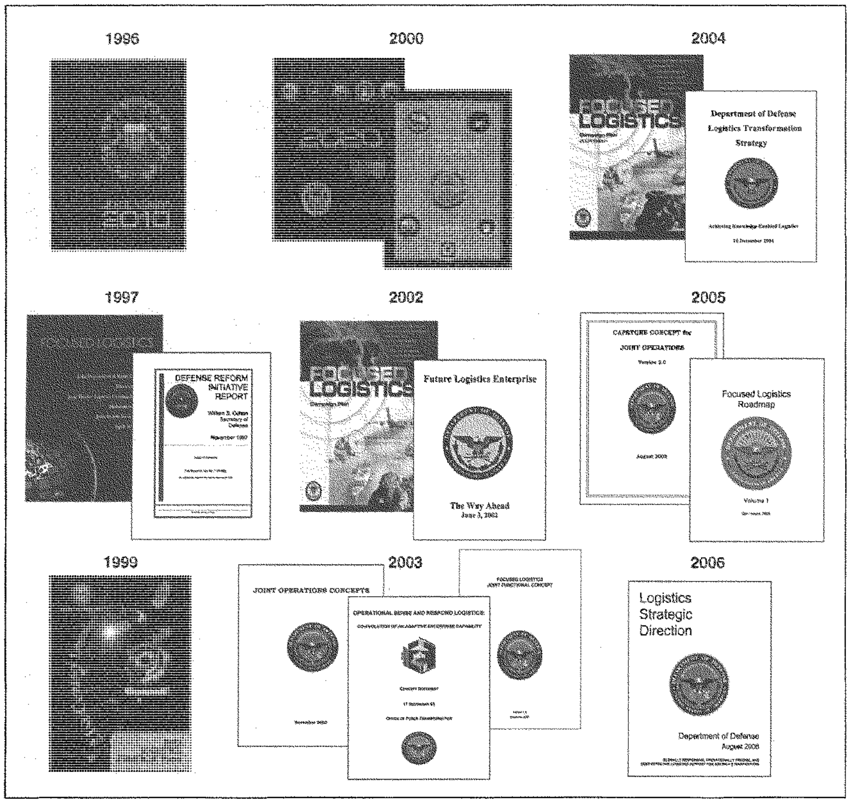
[19] Logistics footprint is the amount of personnel, spare parts, resources, and capabilities physically present and occupying space at a deployed location.

Changes in DOD's Overall Logistics Strategy Hinder Development of Joint Theater Logistics

Changes in DOD's overall logistics strategy have hampered the department's ability to adopt a coordinated and comprehensive management approach to joint theater logistics. These changes indicate that DOD has lacked a consistent vision and strategy regarding its efforts to transform logistics. Over the course of the last 10 years, DOD has made multiple alterations to its overall logistics strategy that have reflected differing visions about the future of the department's logistics system. Figure 1 shows several of the strategic planning documents, including vision statements, doctrine, campaign plans, and roadmaps, that have addressed the future of DOD's logistics systems.

Figure 1: Recent Strategic Planning Documents Addressing DOD Logistics


1996
2000
2004
FOCUSED LOGISTICS
Department of Defense Logistics Transformation Strategy
1997
FOCUSED LOGISTICS
DEFENSE REFORM INITIATIVE REPORT
2002
FOCUSED LOGISTICS
Future Logistics Enterprise
The Way Ahead
2005
CAPSTONE CONCEPT for JOINT OPERATIONS
Focused Logistics Roadmap
1999
2003
JOINT OPERATIONS CONCEPTS
OPERATIONAL SENSE AND RESPOND LOGISTICS
FOCUSED LOGISTICS JOINT FUNCTIONAL CONCEPT
2006
Logistics Strategic Direction
Department of Defense
August 2006

Source: GAO

Many of the strategic planning documents shown in figure 1 have addressed joint theater logistics, but the description of this concept has varied over time. For example, a strategic planning document derived from Joint Vision 2010 refers to "joint theater logistics command and control," describing this focused logistics capability primarily as a concept to clarify lines of authority through a single entity responsible for logistics support in a joint warfighting environment. However, the Focused Logistics Joint Functional Concept appeared to change the focus of joint theater logistics from command and control to management. This document identified joint theater logistics as a capability aimed at developing tools to allow the joint force commander to effectively oversee management of logistics through the range of military operations and did not focus on clarifying lines of authority through a single logistics command and control organization. As part of this continuing evolution of DOD logistics strategies, the most recent efforts include (1) the "to be" roadmap, (2) the revision of the Focused Logistics Joint Functional Concept, and (3) the capabilities portfolio management test for joint logistics.

- "To Be" Roadmap. As a follow-on to the 2005 "as is" Focused Logistics Roadmap, DOD is developing a "to be" roadmap. Because the "as is" roadmap indicated that key focused logistics capabilities would not be achieved by 2015, the Under Secretary of Defense (Acquisition, Technology, and Logistics) directed the department to prepare a more rigorous "to be" roadmap that would identify the scope of logistics problems and capability gaps to be addressed, including joint theater logistics. According to DOD officials, the roadmap is intended to portray where the department is headed in the logistics area and how it will get there, monitor progress toward achieving its objectives, and institutionalize a continuous assessment process that links ongoing capability development, program reviews, and budgeting. The first edition of the "to be" roadmap was scheduled for completion in February 2007, in conjunction with the submission of the President's Budget for Fiscal Year 2008. However, DOD put the roadmap on hold pending the completion of other strategic initiatives. As of March 2007, DOD estimated it would complete the roadmap by March of 2008, after completion of its capabilities portfolio management test. Capabilities portfolio management is discussed below.

- Focused Logistics Joint Functional Concept. DOD is revising the Focused Logistics Joint Functional Concept, which could affect the future of joint theater logistics. In August 2006, Joint Staff officials told us that they no longer believe that the Focused Logistics Joint Functional Concept approved in 2003 accurately captures the capabilities needed by the warfighter, as they found it difficult to delineate the relationships among the seven focused logistics capabilities, including joint theater logistics. Consequently, the Joint Staff is currently rewriting the Focused Logistics Joint Functional Concept, which they expect to be finalized in the fall of 2007. According to Joint Staff officials, the revision will likely realign focused logistics capabilities, reducing the number of capabilities supporting joint logistics from seven to five. They have stated that joint theater logistics may cease to exist as a stand-alone capability area under the proposed realignment. However, they have said that the tenets of joint theater logistics would be retained in the remaining capability areas addressing the supply chain, and the functional areas associated with joint theater logistics would be integrated within the broader joint logistics portfolio. Once the Focused Logistics Joint Functional Concept paper is rewritten, DOD intends to complete the "to be" roadmap in alignment with the new joint logistics capability areas. Additionally, DOD's key joint doctrine document for joint logistics operations, Joint Publication 4-0, is being rewritten to reflect these changes.

Prior to these changes, the Joint Staff's Joint Theater Logistics working group had begun developing an implementation plan for joint theater logistics. As part of this plan, the working group identified 13 capability areas in support of joint theater logistics.[20] For each capability, the working group planned to evaluate different processes used by the services and merge the common parts of these individual processes into a joint process to meet the commander's requirements. The working group finished identifying the joint processes for 3 of these potential capability areas that were considered most readily joint—ammunition, fuels, and mortuary affairs— and began drafting the joint tasks and metrics associated with each. Drafts of these documents were completed prior to the summer of 2006, and the goal was to have the tasks identified for the 3 capability areas by July 2006. All the services have agreed to these three joint processes, and officials said that the next step is to complete task identification for all 13 capabilities. However, these efforts have been placed on hold pending DOD's realignment of the joint capability areas.

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[20] The 13 joint theater logistics capabilities areas identified in this process were: engineering; joint reception, staging, onward movement, and integration; joint expeditionary theater opening; joint contracting; joint deployment and distribution management; joint petroleum management; joint service support; joint financial management visibility; joint repair and maintenance; joint subsistence, food service support, and water management; mortuary affairs; joint theater conventional munitions management; and health service support.

- Capabilities Portfolio Management. In a separate but related effort, the department has begun testing a new approach to managing the development of joint capabilities DOD-wide. This new approach is known as joint capabilities portfolio management. In September 2006, the Deputy Secretary of Defense selected joint logistics as one of four capability areas for testing capabilities portfolio management.[21] These experiments were initiated in response to the 2006 Quadrennial Defense Review that emphasized DOD's need to build on capabilities-based planning and management. According to DOD officials, the purpose of this test is to determine if DOD can make better leadership decisions by managing a portfolio of capabilities instead of managing systems and capabilities individually. Thus, this portfolio test is intended to enable senior leaders to consider trade-offs across previously stovepiped areas and to better understand the implications of investment decisions across competing priorities. The Joint Staff Director for Logistics is the test director for the joint logistics test case, which will include all capabilities required to project and sustain joint force operations, including supply chain operations. DOD will examine the capabilities and their initiatives in order to identify gaps or redundancies or determine where initiatives complement one another. According to Office of the Secretary of Defense (OSD) and Joint Staff officials, the initial results of the joint logistics capability portfolio management test were expected to be available in late spring 2007. The officials told us that these results will then be used to write the revision to the Focused Logistics Joint Functional Concept, which they said will enable them to complete the "to be" roadmap. Joint Staff officials are also awaiting the completion of the test prior to updating their joint theater logistics implementation plan.

As DOD continues its attempt to articulate an overall strategy to guide logistic transformation, the development of the "to be" roadmap and other activities related to implementing joint theater logistics have been delayed due to these changes. In addition, the initiation of the capabilities portfolio management experiment has the potential to fundamentally alter the management of joint logistics. Until DOD decides on its vision and aligns its strategic direction, it will be unable to develop a coordinated and comprehensive approach to joint theater logistics. Moreover, it will be unable to ensure that it is achieving its desired improvements in theater distribution and asset visibility associated with joint theater logistics.

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[21] The other three test cases are Joint Command and Control, Joint Network Operations, and Battlespace Awareness.

DOD Has Made Progress on Joint Theater Logistics Initiatives but Faces Challenges That Hinder Its Ability to Fully Realize the Benefits of These Efforts

DOD components have several initiatives under way that are aimed at developing a joint theater logistics capability in the area of distribution and supply support. Our analysis showed that the current initiatives generally address five areas of distribution and supply support to a joint force commander. Some of the initiatives have been specifically designated by DOD as supporting joint theater logistics, and other initiatives supporting this capability were identified during our field visits with DOD components. Although progress has been made on some initiatives, DOD faces challenges in fully developing and implementing these initiatives. Table 1 summarizes the five areas of distribution and supply support, the related joint theater logistics initiatives, and the challenges we identified during our review.

Table 1: Challenges Hindering DOD's Ability to Fully Implement Joint Theater Logistics Initiatives

Area of distribution and supply support	Related joint theater logistics initiatives	Challenges hindering full implementation
Receiving and processing a large influx of supplies at the beginning of a military operation	Joint Task Force-Port Opening	• Potential redundancy of efforts • Sourcing and use of personnel • Command and control issues
Management of supplies moving across the distribution system	Joint Deployment Distribution Operations Center	• Noninteroperable information technology systems • Container management
Theaterwide coordination of surface transportation assets	Theater and Expeditionary Sustainment Commands, Director of Mobility Forces-Surface	• Fragmented theater logistics operations • Lack of information technology tools • Insufficient numbers of skilled personnel • Unclear position in command structure • Command and control issues • Potential duplication of efforts
Consolidation of supply storage and shipping activities	Node Management and Deployable Depot, Joint Regional Inventory and Material Management, Theater Consolidation and Shipping Point	• Funding of inventories • Security concerns
Exercise of command and control over joint logistics functions	Joint Experimental Deployment and Support	• Statutory requirements for logistics support • Exercising directive authority for logistics • Operational and financial considerations

Source GAO analysis

Unless DOD successfully addresses these challenges, the initiatives are not likely to significantly improve the ability of a joint force commander to harness the diffuse logistics resources and systems that exist within the department and effectively and efficiently direct logistics functions, including distribution and supply support activities, across the theater of operations to accomplish an assigned mission. Moreover, without addressing such challenges, DOD is likely to continue to experience some of the same types of distribution and asset visibility problems that have occurred during Operation Iraqi Freedom.

New Port Opening Capability Faces Implementation Challenges

DOD has developed an initiative to improve its port opening capability but faces implementation challenges because of concerns with potential redundancy of efforts, staffing, and command and control issues. The capability to rapidly open a new port in a theater to receive and process a large influx of equipment and supplies is critical during the initial stages of a military operation, ranging from humanitarian missions to major combat operations. A rapid port opening capability provides the joint force commander with an expeditionary force to conduct an airfield or distribution assessment, establish initial command and control, set up critical in-transit visibility and communications systems, and establish movement control over distribution operations. However, in the early stages of Operation Iraqi Freedom, U.S. forces did not deploy a sufficient port opening capability that was needed in Kuwait to successfully establish initial supply and distribution operations. For example, we have previously reported that because DOD's priority was for combat forces to move into the theater first, logistics support forces to establish an initial theater distribution system were either deleted from the deployment plan or shifted back in the deployment timeline.[22] As a result, logistics personnel could not effectively support the increasing numbers of combat troops moving into theater, and the shortage of logistics support resulted in delays in the processing of supplies as well as backlogs. According to Army officials, these early decisions regarding port opening capabilities led to problems in sustaining a large influx and flow of materiel during early operations. The Army's deployed port opening capability could not support more than a brigade-sized element, which resulted in a number of theater distribution problems.

DOD Has Established a New Port Opening Unit

To improve DOD's rapid port-opening capability, U.S. Transportation Command began developing the Joint Task Force-Port Opening initiative in 2005, and the Secretary of Defense approved a standing Execution

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[22] GAO-04-305R and GAO-05-775.

Order for the initiative in May 2006. As the Distribution Process Owner, U.S. Transportation Command wanted a capability to rapidly extend the distribution network into a theater and facilitate theater distribution. The mission of the joint task force is to rapidly open a port and manage initial distribution operations. Joint Task Force-Port Opening is comprised of air and surface elements that train and work together, are deployable in 12 hours, and are to be deployed for approximately 45-60 days before being replaced by follow-on forces. According to U.S. Transportation Command, Joint Task Force-Port Opening is designed to rapidly establish and initially operate a port, facilitating more effective movement of materiel within the theater by arranging cargo just off the airfield in a logical pattern and creating a forward distribution point, or node,[23] within 10 kilometers. The capability was initially validated for an aerial port of debarkation, and development of a similar capability for a seaport of debarkation has begun.[24] Joint Task Force-Port Opening bypassed the Joint Capabilities Integration and Development System process initially but is now going through an accelerated review.[25] U.S. Transportation Command's goal is to have three Joint Task Force-Port Opening units, each comprised of an air and a surface element, which would facilitate a cycle allowing for an active, a training, and a reconstituting unit at any given time. Currently, there is one surface element at Fort Dix, New Jersey, that is staffed by individuals from multiple Army Reserve units and filled through a request for forces that was originally set to expire in June 2007. The air element is provided by the Air Force's existing Contingency Response Groups, and the current group is located at McGuire Air Force Base, New Jersey, near the surface element at Fort Dix.

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[23] A distribution node exists wherever materiel arrives in the distribution system via transportation assets such as air, surface, or ground transport.

[24] According to U.S. Transportation Command, the Joint Task Force-Port Opening seaport of debarkation team is in the final stages of staffing its concept of operations for U.S. Transportation Command components, U.S. Joint Forces Command, the Joint Staff, and the services. The concept has also been briefed to the geographic combatant commanders' staffs. U.S. Transportation Command officials stated that planning and development of the seaport of debarkation training concept and force sourcing activities began in April 2007, with a goal of having forces to train by late summer of 2007.

[25] DOD uses the Joint Capabilities Integration and Development System as an analytical process to identify, assess, and prioritize joint military requirements in support of the Joint Requirements Oversight Council and its Functional Capabilities Boards. The purpose of the analysis process is to identify capability gaps and redundancies, determine the attributes of a capability or combination of capabilities that would resolve the gaps, identify approaches for implementation, and assess the cost and operational effectiveness of the joint force for each of the identified approaches.

Army Officials Have Raised Concerns About the Port Opening Unit

During our field visits with combatant commands and the military services, we found that while there was agreement on the need for an effective port-opening capability, DOD components had differing views on how to address the shortfall in this capability that became apparent during Operation Iraqi Freedom. In particular, senior Army officials we interviewed—to include officials at the Office of the Deputy Chief of Staff for Logistics, Army Reserve, and Army Combined Arms Support Command—expressed concerns regarding (1) the potential redundancy between the Joint Task Force-Port Opening initiative and their own service-led efforts, (2) the personnel resources devoted to the task force, and (3) command and control issues. Until the challenges associated with implementing this initiative are resolved, DOD will continue to struggle to develop and implement an effective and integrated port opening capability.

Army officials questioned the need for Joint Task Force-Port Opening in view of existing and emerging capabilities within the Army. Some Army officials we interviewed asserted that the Army already has an adequate port opening capability but it was not deployed properly during the initial stages of Operation Iraqi Freedom.[26] These officials consider Joint Task Force-Port Opening to be redundant of existing capabilities. Other Army officials stated that while DOD's port opening capability has been deficient, the Army's ongoing efforts to enhance its expeditionary theater opening capability will address this shortfall. Military officials have said that the Army's expeditionary theater opening capability extends beyond the early entry capability of Joint Task Force-Port Opening, and includes a range of key capabilities critical to larger theater opening efforts. In the view of Army officials, port opening is a subset of this larger effort, and consequently Joint Task Force-Port Opening will ultimately fall short of the capability they believe is required and will need to be integrated into a larger theater opening framework. Army officials also had some concerns about the effectiveness of Joint Task Force-Port Opening across the range of military operations. Some officials noted that Joint Task Force-Port Opening could become quickly overwhelmed by a large operation and that additional Army logistics personnel would have to be deployed to supplement the task force's operations.

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[26] Marine Corps officials noted that their service has its own port opening capability through its special purpose Marine Air-Ground Task Forces.

A second area of concern to Army officials is the personnel requirements to staff the Joint Task Force-Port Opening surface element. Army officials told us they were unable to use active duty personnel to fill the surface element due to commitments to other operations, so they turned to the reserve component to fill these positions. However, Army Reserve officials have questioned the sustainability of the task force using reservists. These officials noted that placing Army Reserve personnel on standby for potential Joint Task Force-Port Opening deployment uses up the mobilization time of these reservists without actually deploying the force. The Secretary of Defense recently extended the provisional status of Joint Task Force-Port Opening due to competing priorities for funding and personnel. As a result, the Army Reserve will continue the interim manning arrangement of the task force until the summer of 2008 rather than the summer of 2007 as initially planned.

A final area of concern that emerged from our discussions with Army officials was command and control over Joint Task Force-Port Opening. Army officials raised questions about who would have the authority to deploy the task force and who would direct its operations once it deploys. According to Army officials, such command and control issues must be resolved before Joint Task Force-Port Opening can be effectively integrated into military operations. A theater opening exercise conducted by the Army in November 2006 revealed that these issues had not been resolved. U.S. Transportation Command officials, however, do not identify command and control as an issue regarding the task force. They have stated that the Commander, U.S. Transportation Command, would have the authority to direct the Joint Task Force-Port Opening into the theater and that the joint force commander may exert command and control while the unit is deployed.

DOD Has Taken Steps to Improve Supply Distribution, but Asset Visibility and Container Management Challenges Remain

DOD has taken steps to improve the management of supplies moving across the distribution system, particularly through the creation of Joint Deployment Distribution Operations Centers, but challenges remain in achieving asset visibility across the theater and in managing containers. We have previously reported that the defense logistics systems used by various components to order, track, and account for supplies are not well integrated and do not provide the information needed to effectively manage theater distribution and provide asset visibility.[27] Limitations in these capabilities have led to difficulties in the logistics planning process and the creation of potential double orders for the same supply part, and could impact readiness of forces.

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[27] GAO-05-775.

DOD Has Established Joint Operations Centers in the Geographic Combatant Commands

To address deficiencies in the management of theater supply distribution, DOD has created Joint Deployment Distribution Operations Centers within the geographic combatant commands. The mission of the operations centers is to improve intertheater and intratheater supply distribution by integrating the flow of military forces and supplies and materiel to sustain U.S. forces. The operations centers are designed to incorporate representatives from DOD components, such as U.S. Transportation Command, DLA, and the military services, who can provide a knowledgeable connection to logistics supply centers in the United States and facilitate the distribution of supplies to the theater. According to DOD officials, the Joint Staff and U.S. Joint Forces Command are currently working to incorporate the operations centers into joint doctrine, which will result in updating numerous existing DOD publications.

Initiated by U.S. Transportation Command, the first Joint Deployment Distribution Operations Center was established in Kuwait under U.S. Central Command. In addition to managing the coordination between services and logistics agencies and improving asset visibility as supplies enter the theater, operations center personnel also analyze distribution problems, identify causes, and propose solutions. DOD officials have stated that the operations center was successful at improving the management of supplies moving across the distribution system and achieving cost savings. For example, U.S. Transportation Command officials said the operations center was responsible for shifting from the use of airlift to sealift to transport supplies, which reduces costly airlift requirements and frees up airlift capacity; coordinating the movement of personnel from their point of origin to final destination rather than through intermediate locations with time-consuming layovers (a concept referred to as "single ticket"); and improving distribution management by facilitating the use of pure-packed pallets and containers,[28] developing a container management plan, and improving the return of Army materiel from the theater. According to data provided by U.S. Transportation Command, the activities of the Joint Deployment Distribution Operations Center have resulted in total cost avoidance and savings of $343 million between fiscal years 2004 and 2007.

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[28] Pure-packing is the consolidation of cargo for shipment to a single user.

On the basis of the successes attributed to the Joint Deployment Distribution Operations Center in Kuwait, DOD established new operations centers in the other geographic combatant commands. The size, structure, and organizational placement of these operations centers vary across the combatant commands. For example, the U.S. Central and European Commands have the largest operations centers, with approximately 60 and 55 personnel, respectively. The other centers are considerably smaller with a core staff ranging from 7 to 12 personnel. However, the operations centers are considered "scaleable"—that is, they can be increased in size as needed to support a military exercise or operation.

Lack of System Interoperability Has Impeded Asset Visibility

Senior military commanders in Kuwait told us that despite the benefits obtained from the Joint Deployment Distribution Operations Center, effective management of supply distribution across the theater has been hindered by ongoing challenges in achieving asset visibility. They attributed these challenges to a lack of interoperability among information technology systems, making it difficult to obtain timely and accurate information on assets in the theater. Interoperability refers to the ability of different systems to communicate effectively, including sharing information. Interoperable systems providing effective asset visibility can enable commanders and logisticians to have a common operating picture concerning the location, status, and identity of equipment and supplies across a theater. According to DOD doctrine, asset visibility across the supply chain and a common operating picture are both key enablers for joint theater logistics. In our previous reports, we stated that DOD lacks the systems integration necessary to provide total asset visibility because of the duplicative and stovepiped nature of DOD's systems environment.[29]

During our field visit to Kuwait, officials from the 377th Theater Support Command and 143rd Transportation Command said they must use manual workarounds to overcome the problems caused by noninteroperable information systems. These officials estimate that their staff spends half their time pulling data from information systems, e-mailing it around for validation or coordination, consolidating it on a spreadsheet, and analyzing it to make management decisions. In January 2007, a joint assessment conducted by several DOD components at Camp Arifjan,

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[29] GAO, *Defense Inventory: Improvements Needed in DOD's Implementation of Its Long-Term Strategy for Total Asset Visibility of Its Inventory*, GAO-05-15 (Washington, D.C.: Dec. 6, 2004) and GAO, *DOD Business Systems Modernization: Billions Being Invested without Adequate Oversight*, GAO-05-381 (Washington, D.C.: Apr. 29, 2005).

Kuwait, found that information technology capabilities need to be improved to achieve visibility of materiel in transit and of transportation resources required to optimize distribution. The assessment reported that separate movement control battalions in Kuwait and Iraq use both automated and handwritten transportation movement requests to track air and ground movements. Consequently, to capture the total theater movement picture, both movement control battalions must consolidate manual and automated data into spreadsheets. Neither movement battalion has total visibility over what is occurring in both Kuwait and Iraq. Nor do they have total visibility of the surface transportation resources necessary to optimize the distribution of resources. The movement control battalions use e-mail on a daily basis to coordinate each other's projected movement requests and planned commitment of transportation assets.

Problems With Container Management Have Continued

DOD also has challenges with container management that hinder asset visibility and impede its ability to effectively manage logistics operations and costs. These challenges include (1) the application of radio frequency identification technology on containers in the supply chain, (2) compliance with container management processes, and (3) the return of commercial containers to maritime carriers. We discussed some of these same problems in a prior report.[30]

Most supply items shipped by surface ships, excluding large end items such as vehicles, are consolidated and packed into 20- or 40-foot sea-land containers (such as those shown in fig. 2) that are owned by the government or commercial maritime carriers.

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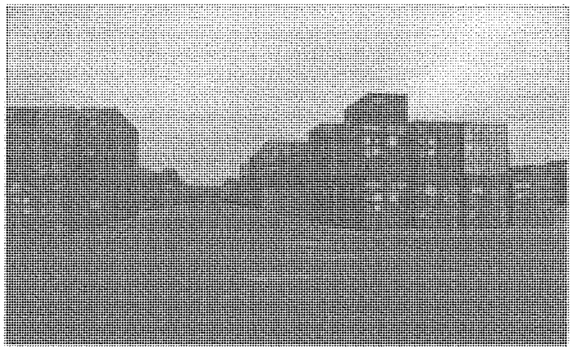
[30] GAO-04-305R.

Figure 2: Military Storage Containers in Kuwait (October 2006)



Source. GAO.

In 2004, the Under Secretary of Defense (Acquisition, Technology, and Logistics) directed the use of active radio frequency identification technology[31] on all consolidated shipments moving to, from, or between overseas locations. These shipments are to be tagged in order to provide global in-transit visibility. U.S. Central Command has emphasized the need to use radio frequency technology to improve asset visibility in Iraq and Afghanistan. In January 2005, the Commander, Coalition Forces Land Component Command, directed that all containers moving to, from, and within the theater have active radio frequency tags written with complete contents detail. However, more than a year later, inadequately tagged containers continued to move throughout the theater. Consequently, the

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[31] Radio frequency identification technology is a data input system that consists of (1) a transponder, generally referred to as a tag; (2) a tag reader, also known as an interrogator, that reads the tag using a radio signal; (3) centralized data processing equipment; and (4) a method of communication between the reader and the computer. The interrogator sends a signal to the tag, prompting the tag to respond. The battery-powered tag sends a signal to the interrogator with information about the container, pallet, or item to which it is attached. The information is forwarded to the central data processing equipment where it is stored and can be used to provide visibility over inventory items as they move throughout the supply chain.

Commander issued an updated radio frequency tag policy in October 2006, instituting a phased-in approach for compliance according to the following timeline: 50 percent compliance by November 1, 2006; 75 percent by December 1, 2006; and 100 percent by January 1, 2007. However, despite this updated policy, inadequate radio frequency tagging of containers continues to be a problem.

U.S Central Command officials, including general officers, identified a number of reasons why DOD continues to struggle with the application of radio frequency identification technology in the theater supply chain. Some problems include shipping containers without radio frequency tags or with tags that are broken, tags with incorrect information, or tags that are rewritten but not cross-referenced to the original shipping information. Based on tracking charts from the Container Management Element,[32] from the period of August 15, 2006, to April 9, 2007, 15 percent of the containers that passed northbound through the NAVISTAR[33] distribution point had no radio frequency tag. Another 20 percent of the containers had broken tags or tags that did not match the container contents.[34] In addition, a radio frequency tag must be created to have the container's shipping information and contents entered into an inventory software system that then uploads the information to the DOD in-transit visibility server. When a container moves between transportation nodes—the airport, seaport, Army general support warehouse, Consolidation Receiving and Shipping Point, Defense Distribution Depot, Theater Consolidation and Shipping Point, NAVISTAR, or forward-located nodes in Iraq—it might require creating a new tag to upload new information to the in-transit visibility server. A container may require a new tag if its current tag is broken or found to contain inaccurate data or when a container is opened and repacked. The problem arises when the new radio frequency tag, with its newly generated number that is assigned by the local inventory software system, does not reference back to the original tag number. As a result, the requesting customer might look up the original tracking number in the in-transit visibility server and no longer have visibility of the shipment.

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[32] This element is under the Joint Deployment Distribution Operations Center.

[33] NAVISTAR is the point of crossing from Kuwait into Iraq.

[34] These averages exclude a gap from November 13 through November 30, 2006, for which no data are available.

Noncompliance with container management processes established by U.S. Central Command can limit asset visibility of supplies. Officials in U.S. Central Command's Container Management Element use an Army Web-based central database to track container ownership, location, condition, and use, and to provide visibility of all containers in theater. For the system to effectively track containers, the containers must be properly "in-gated"—recorded entering a transportation node—and "out-gated"—recorded leaving a transportation node. In a process similar to the commercial shipper tracking systems used by United Parcel Service or Federal Express, a container is in-gated when it first arrives at a location to document that it has been received, according to Container Management Element officials. Upon departure from that location, the container is out-gated to indicate that it has been shipped. Container Management Element officials stated that the failure of transportation nodes to properly in-gate and out-gate containers as they pass through distribution channels is a significant problem hampering asset visibility in theater because tagged containers can become "lost" in theater, with no one able to track the location of the container or its contents. In addition, if the container is commercially owned and not returned to the carrier within a specified time period, detention charges begin accumulating.

In the early stages of Operation Iraqi Freedom, commercial containers were flowing into the theater but were not always tracked once in Iraq, and many of the commercial containers moving into Iraq were not quickly returned to maritime carriers.[35] In July 2005, the Army Audit Agency reported that container detention charges were continuing to accrue at about $15 million per month. [36] To improve management and accountability over containers and to address the growing detention charges, U.S. Transportation Command and the Military Surface Deployment and Distribution Command developed a theater container management process and established the Container Management Element—a unit responsible for tracking and providing management oversight of containers in the theater. In addition, the Army decided to purchase ("buy out") commercial containers to reduce monthly detention charges. According to information provided by the Military Surface Deployment and Distribution Command, the Army had purchased approximately 28,832 containers at a total cost of approximately $203 million, as of December 2006. Container Management Element officials told us that through a combination of container buyouts and increased oversight, detention charges decreased from approximately $10.7 million per month in December 2005 to $3.7 million per month in October 2006.

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[35] Containers were not returned for a number of reasons, primarily because the military's resources were dedicated to tactical operations and because soldiers resourcefully made use of empty containers for such purposes as storage, perimeter barriers, and housing.

[36] U.S. Army Audit Agency: *Asset Visibility and Container Management—Operation Iraqi Freedom, Audit Report:* A-2005-0197-ALE (Alexandria, Va.: July 5, 2005). As of May 2004, only 6 of the 37 transportation nodes in Iraq could read radio frequency tags.

Although DOD has been able to reduce monthly detention charges on commercial containers, it is still experiencing problems with retaining visibility over containers. As of April 30, 2007, the central container database showed that 54,390 containers—or more than one-third of all containers in the U.S. Central Command theater—were considered to be lost. Furthermore, according to container management officials, DOD's problem with commercial container detention charges is shifting from Iraq to Afghanistan. Efforts to curtail the movement of commercial containers into Iraq have been largely successful, according to information provided by container management officials. For example, of the 13,440 containers sent to Iraq from June 6, 2006, to October 17, 2006, only 19 were commercially owned. However, 4,901 (85 percent) of the 5,752 containers sent into Afghanistan during the same period were commercial containers. Container buyout data for December 2006—the most recent data available—show that 4,748 (67 percent) of the 7,038 containers purchased were in Afghanistan. According to container management officials, this problem stems from a general shortage of government-owned containers in the theater and the lack of a container transloading operation for materiel shipped into Afghanistan that would be similar to the one at the port of Kuwait for materiel going to Iraq.[37] Items being shipped by sea to Afghanistan enter through the port of Karachi in Pakistan since Afghanistan is landlocked. According to container management officials, establishing a transloading operation in Pakistan would be difficult because of restrictions placed on U.S. military personnel in Pakistan. These officials said that commercial containers en route to Afghanistan begin to accumulate detention charges prior to reaching their final destination because of the time required for trucks to cover the difficult inland route.

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[37] Transloading is the unloading of a commercially owned container and repacking its contents into a government-owned container.

Separate Organizations Are Being Established to Coordinate Surface Transportation

DOD components have initiatives underway to better coordinate the surface transportation of supply items that are distributed across a military theater of operations, but these efforts face challenges to their implementation and may duplicate some functions. During the initial phase of Operation Iraqi Freedom, DOD faced problems with prioritizing and managing its transportation assets across the theater. According to a 2005 RAND study,[38] U.S. forces suffered from both a shortage of transportation assets—primarily trucks—and the fragmented control and management of these assets across the different echelons of theater command. While RAND reported that exact data on the total truck shortage were not available, the estimated ratio of Army personnel to medium truck equivalents was 194 to 1 at the beginning of Operation Iraqi Freedom compared to approximately 73 to 1 in Operation Desert Storm. In addition, the distances from logistics operating bases to support combat operations were greater—344 miles to Baghdad, versus 210 miles to the farthest incursion during Operation Desert Storm. The Army Division Support Command, Corps Support Command, Area Support Group, and Theater Support Command each controlled a portion of the truck assets within the theater. Consequently, there was no single distribution organization to advocate for truck assets during the force planning process, which may account for the shortage of trucks, and no single organization deployed in theater with the authority to rebalance transportation assets across the theater and integrate and synchronize the surface deployment and distribution movements in support of the commander's priorities.

Sustainment Commands and Surface Mobility Directorate Are Aimed at Coordinating Surface Transportation

The Army and U.S. Transportation Command have separate initiatives aimed at addressing these surface transportation problems. As part of its modular transformation, the Army is creating new organizations—Theater Sustainment Commands and Expeditionary Sustainment Commands—that are aimed in part at centralizing control over Army surface transportation assets within a theater of operations. Under the Army's emerging sustainment doctrine, the objective of the Theater Sustainment Command is to provide the Army with a single headquarters responsible for operational command and control of logistics operations throughout the theater. Its functions include theater opening, materiel management, and distribution. This command would typically operate in a rear area away from frontline military operations. Theater Sustainment Commands replace the Army's existing Theater Support Commands and are designed to plan, prepare, rapidly deploy, and execute operational logistics within the theater of operations.[39] Expeditionary Sustainment Commands, a forward extension of the Theater Sustainment Commands, have a primary role of managing regional logistics operations in support of the joint task force commander. According to U.S. Central Command officials, the 1st Theater Sustainment Command and the 316th Expeditionary Sustainment Command are scheduled to deploy to Kuwait and Iraq, respectively, in the summer of 2007. In addition, the 8th Theater Sustainment Command has been established in U.S. Pacific Command, Hawaii, and the 19th Expeditionary Sustainment Command is operational in Korea.

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[38] RAND Corporation, *Sustainment of Army Forces in Operation Iraqi Freedom: Battlefield Logistics and Effects on Operations*, Contract No. DASW01-C-0003 (Santa Monica, Calif.: 2005).

In a separate initiative, U.S. Transportation Command created a new organization, the Director of Mobility Forces-Surface, to integrate surface deployment and distribution priorities set by the joint force commander. According to U.S. Transportation Command, this initiative will enable DOD to better synchronize and direct the movement and coordination of surface transportation resources to ensure uninterrupted distribution of materiel from air and sea ports of debarkation to destinations within the theater. In addition, U.S. Transportation Command officials believe that theater surface distribution will benefit from establishing an organization that has a capability similar to that provided by the Director of Mobility Forces-Air for theater air distribution.[40] The proposed responsibilities of the Director of Mobility Forces-Surface include coordinating, prioritizing, and executing surface transportation movement requests. In Kuwait, U.S. Transportation Command and U.S. Central Command established a pilot Director of Mobility Forces-Surface in August 2006 and completed an initial assessment of the pilot in February 2007. In addition, this initiative has been tested during exercises in Korea, most recently in March 2007.

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[39] Certain subordinate command elements under the replaced Theater Support Command also will be eliminated, such as the Transportation Command, Transportation Command Element, and Transportation Group. The Division Support Command, Corps Support Command, and Area Support Group have also been eliminated from the Army force structure.

[40] According to U.S. Transportation Command officials, after Operation Desert Shield/Desert Storm the Air Force realized that it did not have the right mix of skills and capabilities to integrate the air mobility mission into the combined air operations center of the combined joint forces air component command. In response, the Air Force developed the air mobility division and its command structure, including the Director of Mobility Forces-Air, to provide this strategic-to-theater integration of distribution.

Initiatives Face Implementation Challenges

The Army and U.S. Transportation Command face a number of challenges in the implementation of their initiatives. While the Army's Theater and Expeditionary Sustainment Commands were designed to be the single headquarters responsible for operational command and control of logistics operations throughout the theater, the fragmentation of logistics operations in theater may hinder it from achieving this objective. More specifically, according to U.S. Central Command officials, the 1st Theater Sustainment Command will be placed under the Commander, Coalition Forces Land Component, in Kuwait. As the forward extension to Theater Sustainment Commands, Expeditionary Sustainment Commands are designed to operate under the command and support of the Theater Sustainment Command in order to provide a single command for logistics theaterwide. However, according to U.S. Central Command officials, the deployment order for the 316th Expeditionary Sustainment Command has placed it under the operational control of the Commander, Multi-National Forces-Iraq. While still attached to the 1st Theater Sustainment Command, the placement of the 316th Expeditionary Sustainment Command under Multi-National Forces-Iraq will likely continue the fragmentation of logistics operations like surface distribution that the new command structure was designed to eliminate. The Commander, Coalition Forces Land Component, is a (Three Star) Lieutenant General, and the Commander, Multi-National Forces-Iraq, is a (Four Star) General and the highest ranking officer in the theater, responsible for U.S. operations in Iraq. As a result, the 1st Theater Sustainment Command will likely be responsible for logistics operations in Kuwait and the rest of the theater, while the 316th Expeditionary Sustainment Command will be responsible for logistics operations in Iraq. In addition, the 19th Expeditionary Sustainment Command in Daegu, South Korea, is under the operational control of the Commander, U.S. Forces Korea, rather than the 8th Theater Sustainment Command in U.S. Pacific Command, Hawaii. The deployment of these new Army logistics support units under command and control structures that differ from their original design raises questions about the efficacy of the emerging Army sustainment command doctrine and its general applicability to joint military operations conducted within a combatant command theater.

Army officials also raised concerns about whether the sustainment commands would have the information technology tools and personnel necessary to effectively and efficiently carry out their mission. They said these commands were designed to be smaller than their predecessors based on an assumption that certain information technology tools would be available to enable the commands to operate with fewer personnel. However, some of these information technology tools have experienced problems during their development that have limited their capability or have delayed their fielding. For example:

- The next generation Mobile Tracking System is a satellite tracking system for trucks that in its most advanced configuration is also able to read and relay information from radio frequency identification tags attached to containers and pallets traveling in a supply convoy. This technology could provide near real-time visibility and location data on supplies moving through the theater by surface transportation. However, the technology is expensive and few trucks are equipped with this latest configuration.

- Battle Command Sustainment Support System processes a large amount of logistics data and can facilitate decision making by providing a means for commanders to determine the sustainability of current and planned operations. The system provides a capability for tracking supply convoys moving through an area of operation. However, it lacks the integration to produce and send a cargo manifest that can be linked to an in-transit visibility device for tracking.

- TransLog Web was designed to serve as the single point of entry for transportation movement requests. This Web-based program could serve as a transportation planning and movement tracking tool to assist movement managers in coordinating supplies and transportation assets. However, the system (1) is not used by all movement control teams, (2) does not provide visibility of the cargo's description beyond the supply class, and (3) does not feed information to the Global Transportation Network.[41]

- Transportation Coordinator's Automated Information for Movements System II is expected to enhance and improve the efficiency and effectiveness of support planning needed to deploy and redeploy forces and equipment; improve the visibility of assets; and enhance cargo and passenger receiving, controlling, and shipping. However, the system is not scheduled to be fully operational until around 2010, and while the Army justified the system based on its joint service application, two services (the

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[41] The Global Transportation Network is DOD's designated in-transit visibility system that collects, integrates, and distributes transportation information to combatant commanders, the military services, and other DOD customers and provides U.S. Transportation Command with the ability to perform command and control operations, planning and analysis, and business operations in tailoring customer requirements throughout the requirements process.

Air Force and the Marine Corps) have stated that they do not intend to use it.[42]

According to Army officials, the shortcomings in available information tools have resulted in the need for additional staff in the sustainment commands. They explained that problems with data and a lack of system interoperability have required the commands to use manual, ad hoc techniques to validate, coordinate, and analyze data for decision making, and these efforts are cumbersome and manpower intensive. In Kuwait, the 377th Theater Support Command, including subordinate commands such as the 143rd Transportation Command, controlled an organization of several thousand personnel. By comparison, the Theater Sustainment Command that will replace it was designed to be staffed with several hundred people. According to Army officials, if the Army had all the information technology tools in place that have been promised and factored into the design of the new sustainment commands, it might be possible to accomplish its mission with the smaller staff. To meet the additional personnel requirements of the sustainment commands, U.S. Central Command issued a request for additional forces, which increased Theater Sustainment Command staffing from 155 to 461 personnel and Expeditionary Sustainment Command staffing from 254 to 378 personnel. Furthermore, Army officials noted that the leaner staffing of the new commands places a premium on obtaining personnel with the right expertise and skills. For example, assigned staff will need to be fully networked with the national inventory control points, able to quickly develop support relationships, and determine the best method of meeting requirements. They must be proficient in tapping into the Army's standard supply system, prepositioned stocks, host nation support, and contracting. The officials expressed some concern about the probability of getting personnel with those skills and expertise on a recurring rotational basis.

The Director of Mobility Forces-Surface has also faced implementation challenges. During exercises in Korea, the new organization has had difficulty establishing its position within the U. S. Forces Korea and Combined Forces Command structure. In each exercise, the directorate has been placed under a different organization. For example, it has been tested under the operational control of the Joint Force Support

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[42] GAO, *DOD Systems Modernization: Uncertain Joint Use and Marginal Expected Value of Military Asset Deployment System Warrant Reassessment of Planned Investment*, GAO-06-171 (Washington, D.C.: Dec. 15, 2005).

Component Command and in the Joint Operations Fusion Center. U.S. Forces Korea officials said that finding the proper niche for Director of Mobility Forces-Surface is further complicated because the South Korean military is responsible for surface mobility of the Combined Forces on the Korean peninsula. During the 2007 exercise, the directorate was placed in the Combined Transportation Movement Center, which is co-chaired by the South Korean military.

Moreover, the initial assessment of the Director of Mobility Forces-Surface pilot in Kuwait by U.S. Transportation Command and U.S. Central Command indicated that the initiative faces a number of challenges related to (1) command and control, (2) availability of information technology tools, (3) securing personnel with the expertise and knowledge to use the information technology tools that are available, and (4) potential duplication of responsibilities with other Army organizations. More specifically, the assessment found that while the pilot had made progress, the Director of Mobility Forces-Surface:

- was assigned to the Coalition Forces Land Component Commander, whose authority is currently restricted to the Kuwait Joint Operations Area, which impedes a U.S. Central Command-wide focus on surface distribution;
- lacked adequate information technology tools to ensure the visibility of materiel in transit and availability of surface transportation assets required to optimize surface distribution across the theater;
- lacked personnel with the right skill sets or training to take advantage of the technology tools that were available; and
- provided functions that could overlap with those of the Army's 1st Theater Sustainment Command.

Regarding this last point, an Army analysis also showed a potential for duplication of efforts. Specifically, the Army reviewed 123 proposed responsibilities of the Director of Mobility Forces-Surface and found that most of the responsibilities are covered by the Army's sustainment commands and service component commands. The Army's analysis showed that most other proposed Director of Mobility Forces-Surface responsibilities were covered by the geographic combatant command.

The U.S. Transportation Command and U.S. Central Command's assessment also noted that "unity of effort" with regard to the Director of

Mobility Forces-Surface was lacking and that some key senior leaders had not yet embraced the initiative's capabilities. In response to the assessment, U.S. Central Command discontinued the pilot in May 2007, until some of these issues are resolved.

Consolidated Storage and Shipping Arrangements Have Been Implemented on a Limited Scale

DOD components have begun several initiatives to consolidate storage and shipping sites located in a joint theater, but these efforts have been implemented on a limited scale and we found potential opportunities for further consolidation during our fieldwork in Kuwait. DOD currently uses multiple storage and shipping sites within a theater to supply items to its customers. In some cases, these sites may carry the same supply items and ship to the same customers. Operating multiple sites requires additional facilities, personnel, contract services, and inventories and also results in extra movements of stock, inefficient use of surface and air distribution assets, increased opportunities for information processing errors, and the loss of asset visibility. Consolidating storage and shipping arrangements can help address these supply chain problems while at the same time reducing DOD's logistics footprint.

Consolidated Storage and Shipping Initiatives

DOD has developed initiatives to consolidate and improve storage and shipping of materiel, including Node Management and Deployable Depot, Joint Regional Inventory and Material Management, and Theater Consolidation and Shipping Point. Node Management and Deployable Depot is a DLA initiative to develop a small-scale, rapidly deployable distribution center that has the capability to provide consolidated shipping, receiving, cross-docking, storage, communication, and order processing. The initiative, which is in the early stages of development and testing, is aimed at improving the flow of logistics information along the supply chain and also providing efficient physical management of materiel in the theater of operations. To deploy this capability to a theater, DLA would send trained personnel, information technology systems, portable structures, and materiel handling equipment. DLA is collaborating with U.S. Transportation Command to establish a close association between Node Management and Deployable Depot and Joint Task Force-Port Opening. Supply items off-loaded by the port opening unit could be moved to the DLA depot located within 10 kilometers away. The two organizations plan to write this relationship into the concepts of operations for both initiatives. U.S. Pacific Command is the operational manager for Node Management and Deployable Depot, providing the location for upcoming exercises to prepare for operations that would be carried out in an austere location. The initiative is currently undergoing tests of both its information technology and materiel management capabilities.

A second consolidation initiative is Joint Regional Inventory and Material Management, which is aimed at streamlining the storage and distribution of common items for multiple military service locations in a region from a DLA hub. The objectives of Joint Regional Inventory and Material Management include eliminating duplicate materiel handling and inventory layers. The pilot program for the Joint Regional Inventory and Material Management initiative in Hawaii has been completed and shows promise to improve joint theater logistics, but some funding and metrics issues are still being addressed. DOD has met key milestones in this initiative, and officials in U.S. Pacific Command reported that they had reduced redundant service-managed inventories, the number of times they handle parts, and customer wait times over the course of the pilot. When the services stock fewer items, they also have more efficiency in storage, and U.S. Pacific Command officials estimated that the services had reduced their inventory levels by more than $10 million.[43] A related activity included in the initiative is the development of a Web site for hazardous materials that would allow the services to share and view data on available hazardous inventories, enabling them to make arrangements with the other services to reuse items and save on waste disposal costs. Another related activity is an ongoing effort to establish a joint shipment manager to provide expedited and scheduled deliveries to move items from the DLA hub to the requesting units. U.S. Pacific Command officials told us that they plan to roll out Joint Regional Inventory and Material Management to other DLA depots in the command's area of operations, and they plan to establish this arrangement next in Okinawa and Guam. U.S. Pacific Command has established a working group that is addressing some issues such as tracking demand histories for multiple requests and deployed units and determining appropriate metrics to ensure that DLA has the assets available when the services require them. Officials we spoke with believe Joint Regional Inventory and Material Management has the potential to improve joint theater logistics by having common assets available close to where they are needed and under the control of DLA, freeing military service personnel to focus on service-specific assets and their warfighting missions.

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[43] Stockage levels for Joint Regional Inventory and Material Management are based on the number of demands placed on a part per year, and a minimum of four demands was required for an item to be included in the pilot.

A third consolidation initiative we found during our review is the establishment of Theater Consolidation and Shipping Points. DLA, in coordination with the Army, has opened Theater Consolidation and Shipping Points within the U.S. European Command and U.S. Central Command geographic regions. The goal for these consolidated facilities is to improve the overall efficiency and interoperability of materiel consolidation and shipping activities. The Theater Consolidation and Shipping Points operate under memoranda of agreement between DLA and each of these combatant commands. DLA is validating its template for the Theater Consolidation and Shipping Point, which is the first step in creating a doctrinal organization, according to DLA officials.

The Theater Consolidation and Shipping Point in the U.S. European Command opened in October 2006, and is collocated at DLA's Defense Distribution Depot-Europe in Germersheim, Germany. The creation of this consolidated activity was part of the Army's plan for managing a reduction in personnel in Europe, which included divesting itself of noncore activities and focusing on its warfighting functions. The DLA organization took over distribution functions that had been performed by the Theater Distribution Center, which was operated by the Army's 21st Theater Support Command at Panzer Kaserne, Germany. These functions include breaking bulk materiel for multiple customers, consolidating materiel for shipment to individual units, marking pallets and containers with radio frequency identification tags, and preparing them for onward shipment to customers. The Army agreed to fund the realignment of the Theater Distribution Center's functions to DLA by transferring $1.6 million each fiscal year for fiscal years 2007 and 2008, and then realigning funding directly to DLA beginning in fiscal year 2009. According to the Commander of the Defense Distribution Depot-Europe, the Theater Consolidation and Shipping Point will serve as the primary conduit for theater sustainment distribution from multiple sources, including materiel entering the theater at Ramstein Air Base and the Germersheim Rhine River terminal. He said collocating the Theater Consolidation and Shipping Point with the DLA Defense Distribution Depot will improve the overall efficiency of theater distribution activities by making better use of DLA's existing distribution infrastructure, including its information technology systems, and will capitalize on DLA's core competencies of receiving, storing, and shipping materiel. According to the Commander, specific benefits have included estimated annual cost savings of approximately $700,000 and a reduction in full-time equivalent employees from 56 to 19. At the time of our visit, the activity had been operating for less than a week; consequently, our review was limited to briefings and a tour of the operations and processes at the facilities in Germersheim, Germany. Therefore, we did not validate the claimed benefits.

In U.S. Central Command, the Theater Consolidation and Shipping Point was established in February 2006 when DLA took over theater distribution functions from an Army-operated Theater Distribution Center in Kuwait. The Theater Distribution Center had previously been relocated to Camp Arifjan from just outside Camp Doha when Camp Doha closed in 2005. According to DLA officials, the Army and DLA agreed to transfer operations to DLA in December 2005, and DLA began operations in February 2006. The facility is contractor-operated at an annual cost of approximately $7.9 million. The transfer of operations to DLA was aimed at capitalizing on the agency's materiel consolidation and shipping expertise, streamlining the distribution process by linking the distribution depot and the consolidation and shipping operations under DLA management, and improving asset visibility by installing DLA's standard distribution information system at the consolidation and shipping point.

Additional Opportunities for Consolidating Shipping and Storage

During our fieldwork in Kuwait, we found that additional opportunities may exist for consolidating storage and shipping activities. Unlike the consolidation and shipping point in Europe, the Kuwait activity is not collocated with the DLA Defense Distribution Depot and therefore lacks the efficiencies from combining operations available at the European activity. Moreover, the Army continues to operate a general support warehouse at Camp Arifjan that is separate from the DLA Theater Consolidation and Shipping Point. Based on our visits to these facilities and discussions with officials, we believe there are potential opportunities to improve joint theater distribution processes and sustainment operations through further consolidation, relocation, and streamlining of distribution operations and processes. Some potential improvements that might be achieved are:

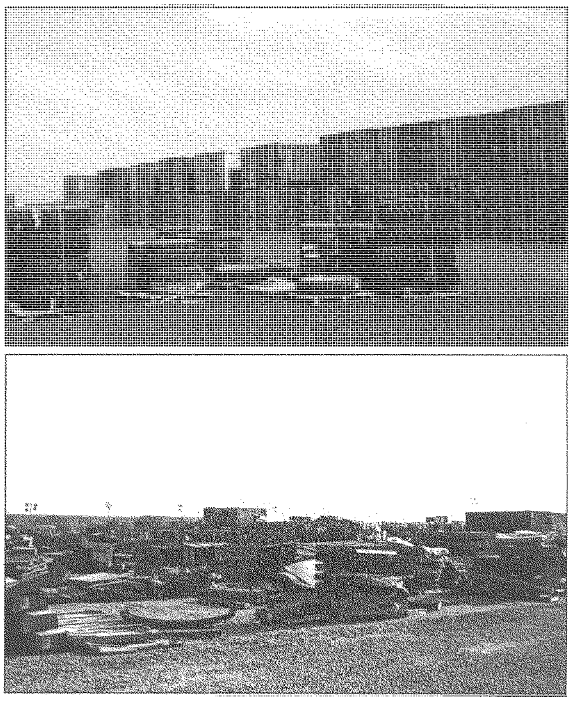
- reducing contract and contract administration costs;
- maximizing use of pure pallets, thereby making more efficient use of airlift capability and reducing customer wait time;
- eliminating redundant warehouse functions and substandard warehouse facilities;
- freeing up government-owned containers for use in repacking materiel intended for units in Iraq; and

- consolidating materiel processing points, thereby reducing the potential for errors in information technology and the loss of asset visibility.

The DLA Defense Distribution Depot is a contractor-owned and operated facility located in the Mina Abdullah Complex, a private industrial park located approximately 14 kilometers outside Camp Arifjan. The current annual contract cost for the distribution depot is approximately $37.1 million. The distribution depot carries out similar receiving, storage, packing, and shipping functions as the Theater Consolidation and Shipping Point, and these facilities serve the same customer base. For example, each facility pure packs air pallets to be flown out of Ali Al Salem Air Base to units in Iraq, Afghanistan, and the Horn of Africa. According to the distribution depot director, the depot is having difficulty packing pure pallets to capacity and consequently is not maximizing use of airlift capability. The depot's goal is to hold air pallets for up to 24 hours in hopes of packing a pure pallet. However, if the pallet is not completely pure packed within the 24-hour hold period, it must be airlifted anyway in order to meet customer wait time standards. DLA officials told us that by collocating the consolidation and shipping point with the distribution depot, they could more quickly build fewer and larger air pallets, which would maximize the use of airlift capacity and reduce customer wait time.

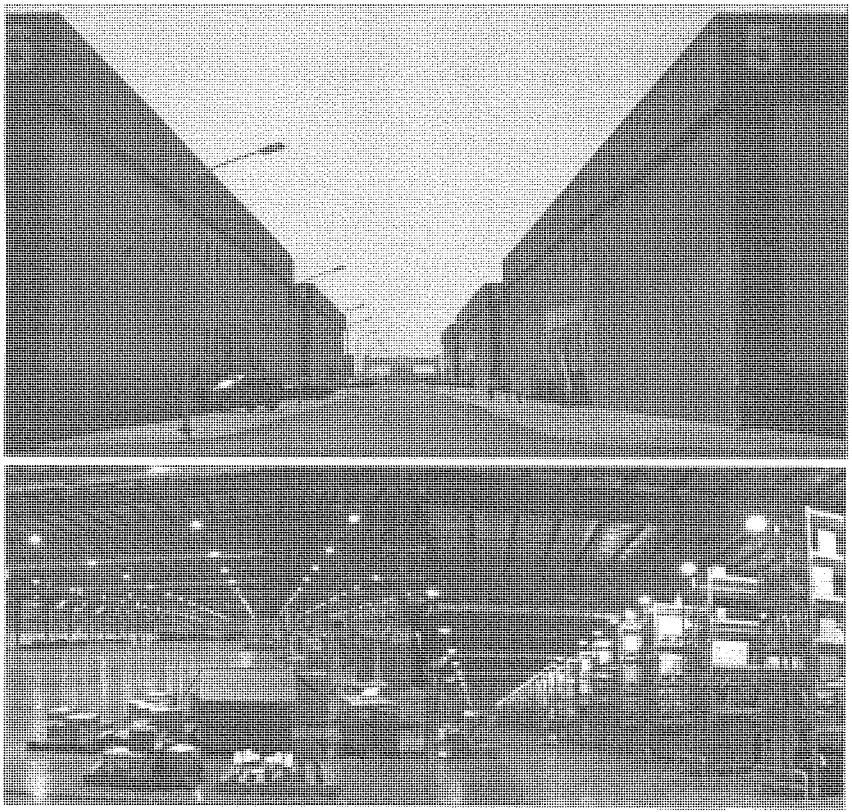
The Army's general support warehouse at Camp Arifjan also performs materiel receiving, storage, and shipping functions. The Army warehouse is in poor condition, is poorly lighted, and has little climate-controlled space. It operates at capacity and has some of its inventory stored outside in government-owned containers or on the bare ground and exposed to the elements (see fig. 3). The DLA Defense Distribution Depot, in contrast, appears to be a modern warehouse with approximately a million square feet of covered warehouse space, much of which is climate controlled, and another million square feet of hard surface (asphalt) outside storage space for containers (see fig. 4).

Figure 3: Views of Container and Yard Storage at Army General Support Warehouse, Camp Arifjan, Kuwait (October 2006)



Source: GAO.

Figure 4: Exterior and Interior Views of Warehouses at the DLA Distribution Depot, Kuwait (October 2006)



Source: GAO.

According to DLA officials, the distribution depot has sufficient capacity to absorb the Army general support warehouse workload and already manages 920 Army-specific items. Consolidating the Army warehouse inventory at the DLA distribution depot would likely produce efficiencies through economies of scale, reducing the overall cost of receiving, storage, and shipping, and also eliminate the need to upgrade the substandard Army warehouse on Camp Arifjan. Consolidating the Army general support inventory at the DLA depot would also free up government-owned containers currently used for general warehouse storage. Government-owned containers are needed to support seaport operations for repacking materiel to send to Iraq from commercial containers, and they are in short supply in Kuwait.

U.S. Central Command has directed that only government-owned containers be sent into Iraq to prevent the accumulation of detention charges on commercial containers. According to 831st Transportation Battalion officials responsible for port operations, government-owned containers sent to Camp Arifjan are seldom returned to the port to support container cross-loading operations. Army general support warehouse officials told us that when they are directed to give up government-owned containers to support port operations, they often have no place to put the materiel stored inside the container, which forces them to store some inventory on the bare ground. Having adequate space to store inventory at the DLA distribution depot would reduce the need to use government-owned containers as storage space, thereby supporting container cross-loading operations at the port, and would reduce the need to place inventory on the ground and exposed to the elements.

The Army general support warehouse, DLA Theater Consolidation and Shipping Point, and DLA Defense Distribution Depot, Kuwait all exist to support essentially the same units in Iraq with regard to receiving, storing, and shipping sustainment materiel. According to DLA officials, consolidating these operations at the DLA Defense Distribution Depot would help to improve asset visibility by reducing the number of materiel processing points, and thereby the potential for errors in inputting data into information technology systems. Under such a consolidation, only one organization would be applying radio frequency identification tags to containers and entering data into the joint in-transit visibility systems, which are tasks that DLA officials consider to be among the agency's core competencies.

In discussing our observations with Coalition Forces Land Component Command officials, they generally agreed about the potential for consolidating storage and shipping arrangements and stated that the conditions needed to be thoroughly assessed and workable recommendations developed. These officials noted two obstacles that would have to be overcome. First, the Army had already purchased its general support inventory and wanted to be reimbursed for inventory transferred back to DLA. Second, the Directorate of Security Plans and Operations, within the Army's Area Support Group in Kuwait, had assessed the Mina Abdullah Complex as too great a security risk for relocating the operations from Camp Arifjan. In January 2007, subsequent to our visit to Kuwait, the directorate completed a new force protection assessment of the Mina Abdullah Complex. According to DLA officials, this new assessment leaves open the possibility of moving the Theater Consolidation and Shipping Point and the Army general support warehouse to the distribution depot if certain deficiencies are adequately addressed. In March 2007, the DLA Defense Distribution Center directed a study team to conduct an analysis of major theater receipt, storage, and distribution nodes and processes in U.S. Central Command. In April 2007, the study team briefed the Distribution Process Owner Executive Board on the results of its assessment, which included recommendations to terminate the Theater Consolidation and Shipping Point contract and assume these functions at the defense distribution depot and to draw down inventory and operations at the Army general support warehouse at Camp Arifjan.

Command and Control Over Joint Logistics Functions Remains Unresolved

Command and control over joint logistics functions has been a concern due to past challenges with directing and coordinating logistics resources and systems within a theater of operations. In past combat operations, joint forces dispersed over a large area of operations placed significant demands on the ability of the joint force commander to provide, manage, and prioritize logistics support. For example, although the combatant commander has directive authority for logistics, existing capabilities and processes limit the ability to exercise this authority. In 1997, DOD identified command and control as a key focus area of joint theater logistics in order to prioritize and allocate scarce resources, determine how services can share existing assets and capabilities in theater, and eliminate redundancies and excess capabilities. Additionally, officials at U.S. Pacific Command explained that senior military leaders have indicated that they want a single point of contact for all logistics information in theater. Officials at U.S. Central Command stated that clear lines of command and control, in addition to improved asset visibility, are currently needed to advance joint theater logistics.

Several Command and Control Options Have Emerged

The joint theater logistics initiatives we reviewed all include organizational structures intended to provide command and control over all or part of logistics functions under the combatant commander's control. In addition to the initiatives discussed earlier in this report, U.S. Joint Forces Command is coordinating the Joint Experimental Deployment and Support initiative.[44] The objective of this initiative is to experiment with a range of command and control options that can provide logistics coordination, integration, and synchronization to meet the combatant commander's priorities. The initiative builds upon DOD's Joint Deployment Distribution Operations Center concept and progresses along a continuum to include more robust organizational options. According to U.S. Joint Forces Command, the different options in the continuum would allow a combatant commander to select a flexible capability and tailor it to suit the size and complexity of a mission. The options along this continuum are displayed in figure 5.

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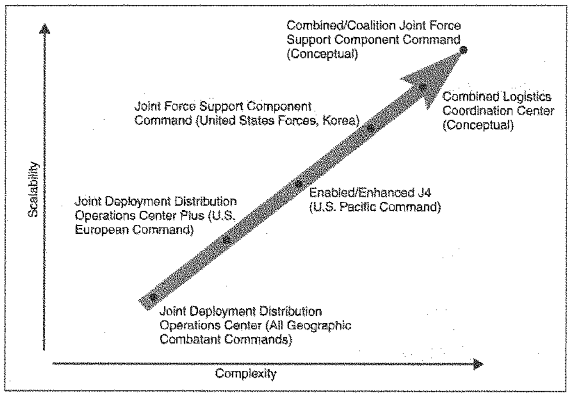
[44] U.S. Joint Forces Command is the DOD executive agent for joint warfighting experimentation, making it responsible for conducting joint experimentation on new warfighting concepts and disseminating the results of these activities to the joint concept community.

Figure 5: Continuum of Logistics Command and Control Options Included in the Joint Experimental Deployment and Support Initiative


Combined/Coalition Joint Force Support Component Command (Conceptual)
Combined Logistics Coordination Center (Conceptual)
Joint Force Support Component Command (United States Forces, Korea)
Enabled/Enhanced J4 (U.S. Pacific Command)
Joint Deployment Distribution Operations Center Plus (U.S. European Command)
Joint Deployment Distribution Operations Center (All Geographic Combatant Commands)
Scalability
Complexity

Source: U.S Joint Forces Command.

Note: Scalability refers to the breadth, depth, numbers of nations, and size of the joint operations areas. Complexity is determined by the geography of the theater, number of distribution nodes, and rapid deployment, among other factors.

The Joint Deployment Distribution Operations Center Plus, which is on the lower end of the Joint Experimental Deployment and Support continuum, is being tested in U.S. European Command. The command's Joint Deployment Distribution Operations Center currently has day-to-day responsibilities that it handles with a staff of 55. For a contingency operation, this organization could be upgraded to the Joint Deployment Distribution Operations Center Plus, with additional staff augmentation from the command's logistics directorate, military services, and other DOD components. U.S. European Command is drafting standard operating procedures for the Joint Deployment Distribution Operations Center Plus. According to command officials, the Joint Deployment Distribution Operations Center Plus may be included in DOD's updated template for the Joint Deployment Distribution Operations Center, which is due in August 2007.

The Enabled/Enhanced J4,[45] which is being tested and developed in U.S. Pacific Command, is the next organizational option on the Joint Experimental Deployment and Support continuum. According to command officials, the Enhanced J4 is activated during contingencies and includes U.S. Pacific Command's Joint Deployment Distribution Operations Center and a fusion cell, which is a 4-person group that pulls together and filters information for the J4. While U.S. Pacific Command's Joint Deployment Distribution Operations Center is run by a staff of 5 for day-to-day operations, during a contingency the organization would be augmented to support the Enhanced J4 with a staff of up to 64. U.S. Pacific Command is currently developing standard operating procedures and joint mission-essential tasks for this new capability.

The Joint Force Support Component Command is the most robust continuum option being evaluated. This organization is designed to provide a single theater logistics command with enhanced joint capabilities to identify theater logistics shortfalls, prioritize shortfalls, and direct theater logistics resources. The Commander, U.S. Forces Korea, has stated that the Joint Force Support Component Command will be the logistics command and control structure for any future contingency operations in Korea. The Army's 19th Expeditionary Sustainment Command in Korea serves as the headquarters for the Joint Force Support Component Command, which will be augmented by integrating staff from other components in Korea, the Pacific Command's Joint Deployment Distribution Operations Center-Korea, DLA, and the Director of Mobility Forces-Surface. The Joint Force Support Component Command has been tested in two exercises—Reception, Staging, Onward Movement and Integration and Ulchi Focus Lens—and U.S. Forces Korea officials are currently involved in the Senior Leader Seminar as part of the high-level process to discuss the next iteration and iron out the roles and responsibilities of the Joint Force Support Component Command. U.S. military officials in Korea explained that the future goal is to merge the Joint Force Support Component Command into a joint logistics command.

The Joint Experimental Deployment and Support continuum shows two other command and control options that could support more complex operations. These options are the Combined Logistics Coordination Center and the Combined/Coalition Joint Force Support Component Command. However, DOD has not defined, developed, or tested these options.

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[45] J4 designates the logistics directorate or section of a joint staff. U.S. Joint Forces Command refers to this option as the Enabled J4, and U.S. Pacific Command calls it the Enhanced J4.

Command and Control Issues Have Not Been Resolved

Despite the development of these new organizations designed to offer robust logistics command and control capabilities, our discussions with officials from the combatant commands and the military services revealed unresolved issues related to exercising joint command and control over logistics functions in a theater of operations. For example, some military services have indicated that they would not support the establishment of a Joint Force Support Component Command in other geographic combatant commands, leaving the future of this initiative in question. A number of officials had concerns about how organizations such as the Joint Force Support Component Command would be staffed and what roles and authorities it would have. Specifically, they mentioned (1) statutory requirements for logistics support, (2) directive authority for logistics, and (3) operational and financial considerations.

Although the Joint Force Support Component Command is still in an experimentation phase, there has been resistance from the services to its future implementation. The Air Force, for example, has stated that, while the Joint Force Support Component Command might work for the size and scale of operations in the Korean theater, DOD should be cautious about adopting it as a model across all combatant commands. The services have expressed concerns about mandating that they provide staff to the Joint Force Support Component Command, while also fulfilling their Title 10 responsibilities to man, train, and equip their forces.[46] The Marine Corps said this would hinder its ability to provide logistics support to its own tasked missions and to deploy in a "lean" condition. Officials from military service components in the geographic combatant commands also raised the issue of having a service component take direction from a separate component command at the same level, rather than from a higher level command, and they were resistant to losing personnel to such an organization because the service component commands still have tactical logistics responsibilities to fulfill. While the Navy has not provided an official position on the Joint Force Support Component Command, Navy officials told us they did have some concerns with the initiative and that one disadvantage of a single logistics command is that it separates logistics from operations instead of keeping both functions under the same operational commander they are designed to support.

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[46] See 10 U.S.C. §§ 3013, 5013, and 8013.

Some military service officials we interviewed raised questions about the effectiveness of a Joint Force Support Component Command that lacked an ability to exercise directive authority for logistics. Directive authority for logistics gives the combatant commander the ability to shift logistics resources within the theater in order to accomplish a mission.[47] While DOD doctrine states that directive authority for logistics may be delegated to a subordinate commander, such as a joint force commander or service component commander,[48] officials we interviewed did not believe directive authority for logistics could be delegated below that level of command to an entity such as the Joint Force Support Component Command. Without this authority, some military service officials question how the Joint Force Support Component Command differs from other logistics command and control organizations if the organization can make recommendations to the joint force commander but not actually direct the transfer of assets across the service components, known as cross-leveling. For example, officials in U.S. Pacific Command stated that the Joint Force Support Component Command faced challenges when trying to release joint logistics tasking orders during the exercises because it could not resolve issues with the service components. They believed that the role of the organization should be to coordinate with the services to deconflict and prioritize support to the next campaign rather than address problems at the tactical level. Since directive authority for logistics still resides with the joint force commander, the Joint Force Support Component Command does not provide any additional authorities; therefore, some officials argued that its functions could be accomplished with an organization such as U.S. Pacific Command's Enhanced J4.

There are also readiness and financial considerations related to exercising directive authority for logistics. In this process, the component commanders provide input as to what they can support. There are military operational risks and trade-offs associated with cross-leveling, because assets diverted from one unit to support another unit may affect the giving organization's ability to conduct a future operation. Officials raised concerns that logisticians in a separate logistics command may not fully understand the impact of cross-leveling on the next military mission. Additionally, because the services obtain funding for their own assets, several officials told us that some form of financial reconciliation must be considered when exercising directive authority for logistics. Thus, any assets provided from one service to another must be accounted for and later replaced or reimbursed. Because of these financial considerations, some military service component officials believed that joint funding is necessary to support joint operations.

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[47] Under 10 U.S.C. §164, unless otherwise directed by the President or the Secretary of Defense, the authority, direction, and control of the commander of a combatant command with respect to the commands and forces assigned to that command include giving authoritative direction to subordinate commands and forces necessary to carry out missions assigned to the command, including authoritative direction over all aspects of military operations, joint training, and logistics.

[48] JCS Pub 4-0 (Apr. 6, 2000), p. I-3.

Issues related to joint command and control over logistics in theater are not limited to the Joint Force Support Component Command organization. For example, another joint theater logistics initiative, the Theater Sustainment Command, also faces some logistics command and control challenges. As discussed earlier in this report, the Theater Sustainment Command is an Army logistics command and control organization that is being developed to streamline logistics support as part of Army modularity. The Theater Sustainment Command, however, is also being developed as a "joint-capable" headquarters that becomes a joint organization in a theater of operations with the addition of augmentees from the military services and other DOD agencies. Its joint-capable designation raises the same issues as the Joint Force Support Component Command regarding staffing, roles, and authorities. In addition to the current uncertainty over who exercises control over the Theater and Expeditionary Sustainment Commands, there would be added the question of where these organizations would fit into the theater. Further, some military service component officials questioned whether using these Army organizations in their joint command and control capacities would lessen their ability to perform Army-specific tasks. Until lines of command and control are clearly defined for these new organizations, joint force commanders will continue to face challenges in directing and coordinating logistics resources within a theater of operations.

Conclusions

Joint theater logistics has the potential to address long-standing issues associated with visibility and distribution of assets within a theater of operations, which is a critical step toward overall improvements in supply chain management and support to the warfighter. While several initiatives developed by different DOD components show promise in improving the joint force commander's ability to see emerging logistics requirements and rapidly respond to them, these initiatives have been fragmented across the department due to the lack of a coordinated and comprehensive management approach. Moreover, the diffused organization of DOD's logistics operations, including separate funding and management of resources and systems, complicates DOD's ability to adopt such an approach to developing and implementing joint theater logistics capabilities. Transformational changes in DOD's organization—such as those proposed by a number of organizations that believe DOD should move toward a more integrated logistics system and change how it controls and allocates logistics funding—could potentially require changes to existing laws, such as Title 10. Another factor that has hindered adoption of a more coordinated and comprehensive approach to joint theater logistics has been changes with respect to DOD's overall logistics transformation strategy. Without a coordinated and comprehensive management approach, DOD may have difficulty addressing the challenges discussed in this report, including determining roles and responsibilities for DOD's port opening capability, addressing asset visibility issues caused by noninteroperable information technology systems, resolving disagreements on roles for coordinating surface transportation, making more use of opportunities to consolidate storage and shipping activities in Kuwait, and clarifying command and control over theater logistics functions. Moreover, without a coordinated and comprehensive management approach, DOD is not in a position to effectively coordinate the initiatives across the department, guard against potential duplication of effort, and prioritize initiatives to make decisions on how best to target its resources.

Recommendations for Executive Action

To improve logistics and supply chain operations, we recommend that the Secretary of Defense direct the Under Secretary of Defense (Acquisition, Technology, and Logistics), in his capacity as the Defense Logistics Executive, to develop and implement a coordinated and comprehensive management approach to guide and oversee efforts across the department to improve distribution and supply support for U.S. forces in a joint theater. This approach should encompass sound management principles, including developing specific strategies and goals, assigning accountability for achieving results, and using outcome-oriented performance measures, and should be aligned with the results of the ongoing joint capabilities portfolio management test, the proposed realignment of focused logistics capabilities, and the development of a "to be" roadmap. In considering options for implementing this recommendation, the Under Secretary should determine whether any changes should be made to DOD's organizational structure and control of resources for joint logistics support and identify the steps needed to make these changes, including changes to existing laws, such as Title 10.

To make more economical and efficient use of shipping and storage facilities, we recommend that the Secretary of Defense direct the Director, DLA, to evaluate existing storage and shipping arrangements within the geographic combatant commands and identify opportunities for consolidation.

Agency Comments and Our Evaluation

In its written comments on a draft of this report, DOD concurred with both of our recommendations. DOD also provided technical comments that we incorporated as appropriate. The department's response is reprinted in appendix I.

In response to our recommendation for developing and implementing a coordinated and comprehensive management approach to improving distribution and supply support in a joint theater, DOD stated that the Deputy Secretary of Defense is leading initiatives in portfolio management, the Defense Logistics Executive (DLE) is focusing on Joint Logistics portfolio management, Joint Staff (J4) is updating the Joint Logistics Joint Functional Concept, and the Deputy Under Secretary of Defense (Logistics and Materiel Readiness) is developing the logistics strategy and roadmap, which are to be completed by summer 2008. While we acknowledge these steps that DOD is taking to improve distribution and supply support for U.S. forces in a joint theater as a good start, we continue to believe that as DOD develops and implements a comprehensive management approach that is coordinated across the department, DOD needs to incorporate the sound management principles we describe in this report. Again, in considering options for implementing this recommendation, the Under Secretary should determine whether any changes should be made to DOD's organizational structure and control of joint logistical support, and identify steps needed to make these changes, including changes to existing laws, such as Title 10. We are reemphasizing these two matters because DOD did not specifically address them in its comments to our recommendations.

Regarding our recommendation that the Secretary of Defense direct the Director, Defense Logistics Agency, to evaluate existing storage and shipping arrangements within the geographic combatant commands and identify opportunities for consolidation, DOD stated that it plans to complete such an evaluation by the summer of 2008. We believe this action, if implemented, will be responsive to our recommendation.

Scope and Methodology

To assess DOD's approach to managing joint theater logistics, we identified sound management principles based on prior work on organizational transformation and federal agency implementation of the Government Performance and Results Act.[49] We also reviewed doctrine, regulations, guidance, plans, briefings, status reports, and other documents related to the development of joint theater logistics, logistics strategic planning, and supply chain management. This review included reports by various audit and non-audit organizations that have assessed DOD's logistics organization. While we examined the recommendations proposed by these organizations, the scope of our review did not include an assessment of these proposals or what changes, if any, would require congressional action. Additionally, we interviewed officials from the Office of the Under Secretary of Defense (Acquisition, Technology, and Logistics) and the Joint Staff Logistics Directorate who are involved in joint theater logistics and logistics transformation. Over the course of these visits and interviews, we obtained pertinent information on the status of DOD's efforts in support of joint theater logistics, such as the "as is" Focused Logistics Roadmap, the "to be" roadmap, and the supply chain management improvement plan. We reviewed the draft joint theater logistics white paper, implementation plan, and capability process analyses. We also examined DOD's overall efforts to institute a long-term logistics strategy, reviewing strategic planning documents such as vision statements, joint doctrine, campaign plans, and roadmaps that have addressed DOD's future logistics systems. We discussed the capabilities portfolio management test case with OSD and Joint Staff personnel. Additionally, we interviewed officials from the Joint Staff, U.S. Transportation Command, combatant commands, DLA, the military services, and selected reserve components to get their perspectives on joint theater logistics.

To obtain information on DOD's progress in implementing joint theater logistics initiatives, we reviewed DOD, Joint Staff, and military service guidance, concepts, directives, briefings, status reports, and other pertinent documentation related to the development of these initiatives. To identify the status of initiatives DOD is working on to address joint theater logistics, we focused on the four initiatives highlighted in the "as is" roadmap in support of joint theater logistics: Joint Deployment

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[49] See GAO, *Results-Oriented Cultures: Implementation Steps to Assist Mergers and Organizational Transformations*, GAO-03-669 (Washington, D.C.: July 2, 2003), and GAO, *Results-Oriented Government: Practices That Can Help Enhance and Sustain Collaboration among Federal Agencies*, GAO-06-15 (Washington, D.C.: Oct. 21, 2005).

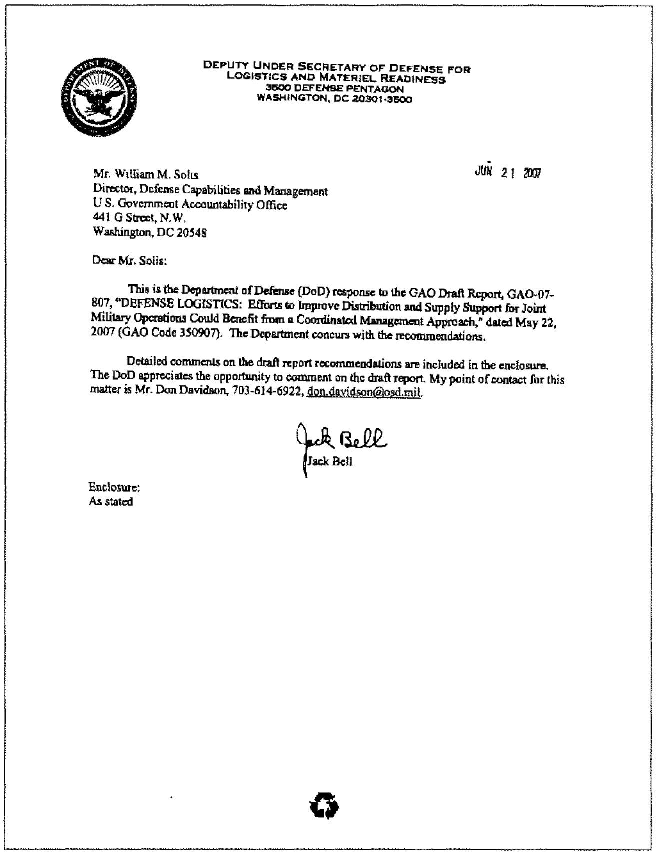
Distribution Operations Center, Director of Mobility Forces-Surface, Joint Experimental Deployment and Support, and Theater Sustainment Commands. We conducted interviews and obtained information on these initiatives from U.S. Transportation Command, U.S. Joint Forces Command, and the Army's G-4 logistics directorate. In addition, we also looked at four other initiatives related to providing support to the joint force commander: Joint Task Force-Port Opening, Node Management and Deployable Depot, Theater Consolidation and Shipping Points, and Joint Regional Inventory and Material Management. Because these initiatives have been recently implemented or are still in the testing stages, in some cases we were able to obtain only limited data on their effectiveness, and we did not independently validate these data. To obtain information on specific initiatives, we interviewed officials from U.S. Transportation Command and two of its components, Air Mobility Command and the Military Surface Deployment and Distribution Command; U.S. Joint Forces Command; DLA; U.S. Army Combined Arms Support Command; the military services; and selected reserve components. Additionally, we visited and interviewed officials in the five geographic combatant commands: U.S. Central Command, U.S. European Command, U.S. Northern Command, U.S. Pacific Command, and U.S. Southern Command. We also met with military service component commands in U.S. Central Command, U.S. European Command, and U.S. Pacific Command and with operational units in Germany, Korea, and Kuwait. Because several of the newly developed initiatives are being tested in the Korean theater of operations, we visited the subordinate unified command in Korea to discuss their experiences and challenges in implementing joint theater logistics. We attended the out-brief for an Army conference on theater opening, reviewed after-action reports from exercises that tested the initiatives, and analyzed lessons learned reports from Operation Iraqi Freedom. To assess the reliability of the container management system data, we interviewed Container Management Element officials at Camp Arifjan, Kuwait, about the internal controls and reliability of the system. We determined that the data were sufficiently reliable for our purposes. We conducted our review from July 2006 to April 2007 in accordance with generally accepted government auditing standards.

We are sending copies of this report to the Secretary of Defense; the Under Secretary of Defense (Acquisition, Technology, and Logistics); the Chairman of the Joint Chiefs of Staff; the Director, DLA; the Director, Office of Management and Budget; and other interested parties. This report will also be available at no charge at our Web site at http://www.gao.gov. Contact points for our Offices of Congressional

Relations and Public Affairs may be found on the last page of this report. Should you or your staff have any questions concerning this report, please contact me at (202) 512-8365 or solisw@gao.gov. Key contributors to this report are listed in appendix II.

William M. Solis
Director, Defense Capabilities and Management

Appendix I: Comments from the Department of Defense



DEPUTY UNDER SECRETARY OF DEFENSE FOR
LOGISTICS AND MATERIEL READINESS
3500 DEFENSE PENTAGON
WASHINGTON, DC 20301-3500

JUN 21 2007

Mr. William M. Solis
Director, Defense Capabilities and Management
U S. Government Accountability Office
441 G Street, N.W.
Washington, DC 20548

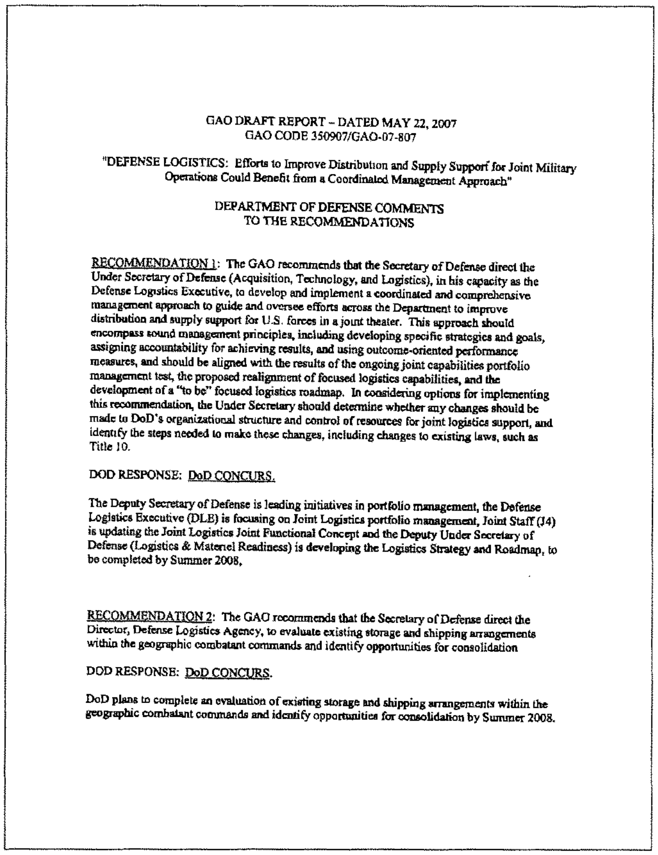
Dear Mr. Solis:

This is the Department of Defense (DoD) response to the GAO Draft Report, GAO-07-807, "DEFENSE LOGISTICS: Efforts to Improve Distribution and Supply Support for Joint Military Operations Could Benefit from a Coordinated Management Approach," dated May 22, 2007 (GAO Code 350907). The Department concurs with the recommendations.

Detailed comments on the draft report recommendations are included in the enclosure. The DoD appreciates the opportunity to comment on the draft report. My point of contact for this matter is Mr. Don Davidson, 703-614-6922, don.davidson@osd.mil.

Jack Bell
Jack Bell

Enclosure:
As stated



GAO DRAFT REPORT – DATED MAY 22, 2007
GAO CODE 350907/GAO-07-807

"DEFENSE LOGISTICS: Efforts to Improve Distribution and Supply Support for Joint Military Operations Could Benefit from a Coordinated Management Approach"

DEPARTMENT OF DEFENSE COMMENTS
TO THE RECOMMENDATIONS

RECOMMENDATION 1: The GAO recommends that the Secretary of Defense direct the Under Secretary of Defense (Acquisition, Technology, and Logistics), in his capacity as the Defense Logistics Executive, to develop and implement a coordinated and comprehensive management approach to guide and oversee efforts across the Department to improve distribution and supply support for U.S. forces in a joint theater. This approach should encompass sound management principles, including developing specific strategies and goals, assigning accountability for achieving results, and using outcome-oriented performance measures, and should be aligned with the results of the ongoing joint capabilities portfolio management test, the proposed realignment of focused logistics capabilities, and the development of a "to be" focused logistics roadmap. In considering options for implementing this recommendation, the Under Secretary should determine whether any changes should be made to DoD's organizational structure and control of resources for joint logistics support, and identify the steps needed to make these changes, including changes to existing laws, such as Title 10.

DOD RESPONSE: DoD CONCURS.

The Deputy Secretary of Defense is leading initiatives in portfolio management, the Defense Logistics Executive (DLE) is focusing on Joint Logistics portfolio management, Joint Staff (J4) is updating the Joint Logistics Joint Functional Concept and the Deputy Under Secretary of Defense (Logistics & Materiel Readiness) is developing the Logistics Strategy and Roadmap, to be completed by Summer 2008,

RECOMMENDATION 2: The GAO recommends that the Secretary of Defense direct the Director, Defense Logistics Agency, to evaluate existing storage and shipping arrangements within the geographic combatant commands and identify opportunities for consolidation

DOD RESPONSE: DoD CONCURS.

DoD plans to complete an evaluation of existing storage and shipping arrangements within the geographic combatant commands and identify opportunities for consolidation by Summer 2008.

Appendix II: GAO Contact and Staff Acknowledgments

GAO Contact

William M. Solis (202) 512-8365

Acknowledgments

In addition to the contact named above, key contributors to this report were Karyn Angulo, Alissa Czyz, Maria Gomez, Thomas Gosling, Brian Howell, and Larry Junek.

UNITED STATES TRANSPORTATION COMMAND
508 SCOTT DRIVE
SCOTT AIR FORCE BASE, ILLINOIS 62225-5357

The Honorable George V. Voinovich
United States Senate
524 Hart Senate Office Building
Washington DC 20510-3504

7 August 2007

Dear Senator Voinovich
Sir,

Thank you for the opportunity to discuss supply chain management within the Department of Defense before the Subcommittee on Oversight of Government Management on July 10, 2007.

As promised, attached is our Business Case Analysis for Radio Frequency Identification. An abbreviated version has been submitted to the Committee staff as an Insert for the Record.

I greatly appreciate your interest in improving supply chain management in the Department.

Sincerely

NORTON A. SCHWARTZ
General, USAF
Commander

Attachment:
RFID BCA

cc:
OCJCS/LA

Business Case Analysis for Department of Defense Passive Radio Frequency Identification

Project Title: DoD RFID BCA

April 2005

Defense Logistics Agency
Office of Operations Research
And Resource Analysis (DORRA)

Mark D. Entner

Table of Contents

page

Business Case Analysis for DoD Passive Radio Frequency Identification Executive Summary I

1.0 Problem Identification 1
- 1.1. Introduction 1
  - 1.1.1. DoD RFID Background 1
  - 1.1.2. Short History of RFID in DoD.. 2
  - 1.1.3. General Overview of RFID 2
  - 1.1.4. Why RFID is thought to be essential to the DoD Supply Chain 3

2.0 Purpose of the Initiative and Selection Criteria 4
- 2.1. Business Case Analysis (BCA) Objective 4
- 2.2. BCA Scope 4
  - 2.2.1. Scope 5
  - 2.2.2. Methodology 5
  - 2.2.3. References 5
- 2.3. Passive RFID Initiative Goals and Objectives 5
  - 2.3.1. DoD Passive RFID Goals 5
  - 2.3.2. Discussion and Evaluation of DoD Passive RFID Goals 8
    - 2.3.2.1.Commercial Expectations of Employing Passive RFID 8
    - 2.3.2.2.Improve Intransit and Asset Visibility Discussion 9
    - 2.3.2.3.Reduce Labor Expenses Discussion 11
    - 2.3.2.4.Improve Inventory Management Discussion 11
    - 2.3.2.5.Improve Shipping / Receiving / Transportation Accuracy Discussion 12
    - 2.3.2.6.Cause and Effect Analysis 12
      - 2.3.2.6.1. Relationship: RFID and Not in Stock 12
      - 2.3.2.6.2. Relationship: RFID and Reducing Shrink 13
      - 2.3.2.6.3. Relationship: RFID and Reduced Credits / Claims 14
      - 2.3.2.6.4. Relationship: RFID and Reduced Inventory Investment 15
      - 2.3.2.6.5. Relationship: RFID and Reduced Labor Expenses 15
      - 2.3.2.6.6. Relationship: RFID and Reducing Duplicate Orders 15
  - 2.3.3. Recommended RFID Goals used for the Analysis 16
  - 2.3.4. Recommended RFID Objectives used for the Analysis 17
    - 2.3.4.1.Reduce Losses in Transportation 17
    - 2.3.4.2.Reduce Losses in Inventory 18
    - 2.3.4.3.Reduce Duplicate Issuing Costs 18
    - 2.3.4.4.Reduce Duplicate Transportation Costs 19
    - 2.3.4.5.Reduce Labor Expenses 19
  - 2.3.5. Recommended Criteria used in the Analysis to Evaluate Alternative Solutions 20
- 2.4. Passive RFID Initiative Stakeholders 20
  - 2.4.1. Services 20
  - 2.4.2. US Transportation Command (USTRANSCOM) 20

2.4.3. DLA 20
2.4.4. Suppliers 20
3.0 Assumptions 21
3.1. Demand 21
3.1.1. Discussion 21
3.1.2. Effects if the assumption is not correct 21
3.2. Equipment 21
3.2.1. Discussion 21
3.2.2. Effects if the assumption is not correct 21
3.3. Cost of RFID Tags 22
3.3.1. Discussion 22
3.3.2. Effects if the assumption is not correct 22
3.4. Data Accuracy 22
3.4.1. Discussion 22
3.4.2. Effects if the assumption is not correct 23
4.0 Constraints 23
4.1. Organizational Constraints 24
4.2. Process Constraints 24
4.3. Technology Constraints 24
5.0 Alternatives 24
5.1. Alternative 1: Remain with the Status Quo 24
5.1.1. Pros 24
5.1.2. Cons 25
5.2. Alternative 2: Continue Passive RFID Implementation 25
5.2.1. Pros 25
5.2.2. Cons 25
6.0 Evaluation of Alternatives 25
6.1. Costs 25
6.2. DoD Estimated Benefits 26
6.3. DoD Raw Data 26
6.4. Optimistic View of DoD RFID Benefits 28
6.5. Pessimistic View of DoD RFID Benefits 29
6.6. Economic Analysis 31
6.6.1. Discussion 31
6.6.2. Conclusion 31
6.6.3. Sensitivity 31
6.6.4. Other Benefits Not Quantified 31
7.0 Comparison of Alternatives 32
8.0 Submitting Organization Approval Chain 33
8.1. Submitting Organization Point of Contact 33
8.2. Command Level Approval 33
8.3. HQ DLA Executive Director Approval 33

List of Tables and Charts

Page
Table 1: Commercial Estimates of Benefits 9
Table 2: RFID Program Costs to FY2011 26
Table 3: DoD Estimated Benefits 26
Table 4: DoD Raw Data 28
Table 5: Optimistic Estimated Benefit Schedule 29
Table 6: Optimistic Savings to DoD 29
Table 7: Pessimistic Estimated Benefit Schedule 30
Table 8: Pessimistic Savings to DoD 30
Table 9: Pessimistic Return on Investment Chart 31

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Executive Summary

Background

On July 30, 2004, the Acting Under Secretary of Defense (USD) for Acquisition, Technology, and Logistics (AT&L) signed a memorandum outlining policy for the use of Radio Frequency Identification (RFID) within the Department of Defense (DoD). However, the Service Secretaries or their appointed representatives that comprise the Defense Logistics Board (DLB), having to make decisions and set priorities in a constrained resource environment, would like to have an independent analysis of the estimated costs, benefits, and potential return on investment (ROI) of Passive RFID in order to justify continued investment in an emerging and yet unproven technology.

In accordance with the Logistics Decision Memorandum dated August 30, 2004 signed by The Under Secretary of Defense Mr. Wynne, The Defense Logistics Agency Office of Operations Research and Resource Analysis (DORRA) will conduct a Business Case Analysis (BCA) for the Defense Logistics Board in order that the Service Secretaries or their appointed representatives will better understand the estimated costs, benefits, and potential return on investment (ROI) of implementing Passive RFID technology in the Defense Supply Chain.

Methodology

The scope of this analysis encompasses the entire DoD supply chain including the services, the US Transportation Command (TRANSCOM) and the Defense Logistics Agency (DLA). Because of the time constraints to conduct this study, this analysis is a general order-of-magnitude look at the costs and benefits of passive RFID in the DoD supply chain.

The methodology employed starts with the DoD goals for passive RFID and the commercial estimates of benefits expected from employing passive RFID. The next step is to evaluate the commercial benefits as they might apply to the DoD supply chain, and then apply the DoD (Table 3) estimate of benefits against DoD raw data including DoD projected sales, credits and claims, inventory investment and labor expenses which were obtained from each service and DLA for FY2005 to FY2011 using the POM / BES and verified using the FY2004 Working Capital Fund statements, specifically Fund 11 and Fund 14.

The results are bounded by a pessimistic view which takes the lowest estimate of benefits to determine savings for DoD, and an optimistic view which takes the highest estimate of benefits to determine the savings for DoD.

The alternatives considered in this analysis are either to stay with the current system using bar codes or to continue the implementation of passive RFID in the DoD supply chain. Furthermore, the basis on which alternative to chose was determined to be the economic ROI of implementing passive RFID.

Table 3: Passive RFID Benefits to the DoD Supply Chain

Benefit	**Estimated Savings**
Reduced Shipping Losses	.25 % - 1.0% of sales
Reduced Inventory Losses	5% – 10% of current inventory losses
Reduced Duplicate Ordering Issuing Costs	1% - 2% of FY2004 Net Landed Issuing Costs
Reduced Duplicate Ordering Transportation Costs	1% - 2% of FY2004 Transportation Costs
Reduced Labor Expenses	$40K per FTE based on location

CONCLUSION

The conclusion is that passive RFID will have a positive economic impact on the DoD supply chain with a break even point two to three years after full implementation. This study recommends that DoD proceed with passive RFID implementation as prescribed in the DoD RFID policy and CONOPS.

As a result DoD should expect savings from RFID implementation from a reduction in lost material in transit, from a reduction in inventory induction mistakes, from reduced duplicate orders resulting in less issuing costs and transportation costs, and eventually from a reduction in labor expenses.

As a lower bound DoD can expect savings in the $70 million range and as an upper bound DoD might expect savings near $1,781 million over a six year period once RFID is implemented in the DoD supply chain. These savings will begin after the break even point which should occur in three to four years.

1.0 Problem Identification

On July 28, 2004, the Acting Under Secretary of Defense (USD) for Acquisition, Technology, and Logistics (AT&L) convened the Defense Logistics Board (DLB) to discuss the DoD Strategy for Radio Frequency Identification (RFID) implementation and to obtain DLB agreement on the future funding for both active and passive RFID.

The members of the DLB agreed that implementation across the Department has the potential to greatly enhance our visibility into the supply chain, reduce supply inventories, and produce significant savings in both cost and manpower. On August 30, 2004 the Acting Under Secretary of Defense (AT&L) signed a Logistics Decision Memorandum directing the Defense Logistics Agency (DLA) to work with DUSD (L&MR) to document the investment and cost benefits of implementing passive RFID. The Director of DLA tasked the DLA Office of Operations Research and Resource Analysis (DORRA) to conduct an independent analysis of the estimated costs, benefits, and potential return on investment (ROI) of Passive RFID in order to justify continued investment in an emerging and yet unproven technology.

1.1. Introduction

1.1.1. DoD RFID Background

Early experience with Radio Frequency Identification (RFID) began when the Army installed active, data rich RFID technology at selected sites around the world to track containers through the logistics pipeline and to provide stand-off visibility of container contents. Fixed interrogators installed at key nodes read RFID tags attached to pallets or containers and provided data to a regional server prior to passing the data to the global asset visibility systems. During our latest operation in Iraq, the use of active, data rich RFID tags was mandated for all materiel entering the theater.

Concurrently, efforts were underway to make it possible for computers to identify any object anywhere in the world instantly utilizing passive RFID technology. The key was to create a universal, open standard for identifying products and sharing information. Part of that work was to develop the Electronic Product Code (EPC) - a unique number that identifies a specific item in the supply chain. EPCglobal, Inc., formed on November 1, 2003 will administer the electronic product codes and develop EPC standards for RFID technology going forward. EPCglobal, Inc. is a joint venture between EAN International and the Uniform Code Council (UCC), Inc. More information on EPCglobal can be obtained at www.epcglobalinc.org.

To take maximum advantage of the inherent life-cycle asset management efficiencies that can be realized with RFID, the Under Secretary of Defense for Acquisition, Technology, and Logistics issued RFID policy: Memorandum, USD (AT&L), Subject: Radio Frequency Identification

(RFID) Policy, 30 July 2004, directing the use of high data capacity RFID used in the DoD operational environment and requiring that suppliers put passive RFID tags on the lowest possible piece part/case/pallet packaging by January 2005. In this regard, DoD is leveraging Electronic Product Code (EPC) and compatible RFID tags. The Assistant Deputy Under Secretary of Defense, Supply Chain Integration has taken the lead to facilitate the implementation of the RFID policy.

1.1.2. Short History of RFID in DoD

Both active and passive RFID technologies have been used in commercial business applications spanning the late 1980s through today. RFID has been used in systems, such as toll road applications (EZ-Pass), and used extensively for retail theft prevention (EAS-electronic article surveillance). Within DoD, active RFID has been the technology application for in-transit visibility (ITV) applications on major end items and consolidated cargo moving via the Defense Transportation System (DTS). Currently DoD, including all Services, Agencies, and Combatant and Supporting Commands, use active RFID to provide the ITV necessary for the proper exercise of statutory Directive Authority for Logistics.

Use of passive RFID technologies in DoD has been limited to smaller pilots or proof of principle applications. These pilots began in 2002 with a test of passive RFID involving hazardous material at the Defense Distribution Center Susquehanna Pennsylvania (DDSP). The Natick Soldier Center Combat Feeding Program conducted a technology demonstration at the Defense Distribution Center San Joaquin, California (DDJC) in February 2004. Current pilot programs include the Defense Logistics Agency (DLA) pilot at DDJC involving Individual Protective Equipment (IPE), VA, a United States Marine Corps (USMC) pilot at Camp Lejune, and an Air Force pilot at Dover Air Force Base. The Navy currently uses passive RFID at the Container Freight Station Norfolk. In compliance with the DoD passive RFID policy, as of January 1, 2005 both DDSP and DDJC have installed initial RFID equipment with the capability to read incoming passive RFID tags and to ship RFID tagged material to customers with the capability to read RFID tags. To date there has been no extensive development or use of passive RFID within the DoD.

1.1.3. General Overview of RFID

RFID systems carry data in suitable transponders, generally known as tags, and retrieve data, by machine-readable means, at a suitable time and place to satisfy particular application needs. Tags have a discrete memory capacity that varies from a small license plate to thousands of records. Data within a tag may provide any level of identification for an item during manufacture, in-transit, in-storage, or in-use. With additional data, the tag may support applications that need item-specific information. For example, shipment consignee or destination ports can be readily accessed upon reading the tag. In addition to tags, an RFID system requires a means for reading or "interrogating" the tags to obtain the stored data and then some means of communicating this tag data to a DoD logistics information system.

RFID in the context of DoD usage falls into three broad categories based primarily on the technology currently in existence – active RFID, passive RFID, and semi-passive RFID. Active RFID uses an internal power source (battery) within the tag to continuously power the tag and its RF communication circuitry. Passive RFID relies on RF energy transferred from the reader/interrogator to the tag to power the tag. Semi passive RFID uses an internal power source to monitor environmental conditions, but requires RF energy transferred from the reader/interrogator similar to passive tags to power a tag response. Active RFID allows extremely low- level RF signals to be received by the tag (since the reader/interrogator does not power the tag), and the tag (powered by its internal source) can generate high- level signals back to the reader/interrogator. Active RFID tags are continuously powered, whether in the reader/interrogator field or not, and are normally used when a longer tag read distance is desired. Passive RFID tags reflect energy from the reader/interrogator or receive and temporarily store a small amount of energy from the reader/interrogator signal in order to generate the tag response. Passive RFID requires strong RF signals from the reader/interrogator, and the RF signal strength returned from the tag is constrained to very low levels by the limited energy. Passive RFID tags are best used when the tag and interrogator will be close to one another. Semi-passive RFID tags use a process to generate a tag response similar to that of passive tags. Semi-passive tags differ from passive in that semi passive tags possess an internal power source (battery) for the tag's circuitry which allows the tag to complete other functions such as monitoring of environmental conditions (temperature, shock) and which may extend the tag signal range.

1.1.4. Why RFID is thought to be essential to the DoD Supply Chain

The current thought in industry and in some elements of DoD is that the use of RFID in a supply chain has the potential to provide real benefits in inventory management, asset visibility, and interoperability in an end-to-end integrated environment. RFID encapsulates the data accuracy advantages inherent in all types of automatic identification technology (AIT). Furthermore, RFID is a totally non-intrusive methodology for data capture (requires no human intervention), is non- line of sight technology, and is a technology that may possess both read and write options within the same equipment item. Additionally, it is thought that RFID will address a key challenge that has been noted at every node within the DoD supply chain – lack of visibility of item data. As an integral aspect of the overarching suite of AIT capabilities, RFID will become a key technology enabler for the DoD logistics business transformation and will support long-term integration of the Unique Identification (UID) into the DoD end-to-end supply chain. The DoD requires that RFID (both active and passive) to accomplish the following:

- Provide near-real time in-transit visibility for all classes of supplies and materiel
- Provide "in the box" content level detail for all classes of supplies and materiel
- Provide quality, non- intrusive identification and data collection that enables enhanced inventory management

- Provide enhanced item level visibility

2.0 Purpose of the Initiative and Selection Criteria

2.1. Business Case Analysis (BCA) Objective

The Defense Logistics Agency Office of Operations Research and Resource Analysis (DORRA) will conduct a Business Case Analysis (BCA) for the Defense Logistics Board in order to answer the following question:

Does Passive RFID offer positive Return on Investment (ROI)?

This BCA is to be considered an initial and abbreviated analysis due to the time constraints to conduct the study. The above question leads to the following two possible alternatives:

Alternative 1. Remain with the status quo.

Alternative 2. Continue with passive RFID implementation as planned.

A positive ROI for DoD suggests that there is an economic benefit to employing passive RFID in the DoD supply chain. This suggests that choosing Alternative 2 would be of the most benefit to DoD.

A negative ROI suggests that there is no economic benefit to employ passive RFID and that Alternative 1 would be selected as the preferable alternative.

2.2. BCA Scope

2.2.1. Scope

This is a top down study from the DoD perspective. The RFID costs used in this analysis and the concepts of operations are as of September 2004 based on the references sited in Section 2.2.3.

The analysis timeframe is limited to seven years from FY2005 to FY2011. This is the time period for current Program Objective Memorandum / Budget Estimate Submissions (POM / BES).

2.2.2. Methodology

Given the scope, top down approach, and time frame to complete the tasking, this analysis starts with the commercial estimates of benefits derived from passive RFID. The next step is to examine those benefits to see if they apply to the DoD business model. This is followed by adding any additional benefits that apply to the DoD supply chain that do not necessarily apply to the commercial sector. The last step is to determine the range of benefits to the DoD and apply the estimated benefits against the DoD sales, losses, inventory, and labor cost data.

2.2.3. References

DoD Radio Frequency Identification (RFID) Policy. Issued by USD (AT&L) 30 July 2004

DoD Passive RFID Concept of Operations. Office of the Secretary of Defense, Supply Chain Integration Version 1.0 Dated 8 June 2004

USD (AT&L) Cost Model. Office of the Secretary of Defense, Supply Chain Integration

2.3. Passive RFID Initiative Goals and Objectives

A key starting point in conducting a business case analysis is to understand the goals and objectives of the initiative. The goals and objectives can then be translated into economic criteria which are measured to determine the return on investment and which alternative should be selected. For example, a goal of passive RFID is to reduce the amount of material lost in the DoD supply Chain. The objective would be to reduce the loss by a certain percent. For the example let's say we want to reduce losses by 1% of sales. This in turn implies that a measurable criteria of success that can be used to compare the alternatives is the reduction of lost material measured in dollars.

Section 2.3 is a lengthy discussion starting with the passive RFID goals articulated from various sources. The DoD goals are discussed in section 2.3.2 in light of commercial goals for RFID which are outlined in section 2.3.2.1. In view of the commercial expectations of passive RFID, DoD goals are grouped together into like categories and then examined to determine the cause and effect relationships that passive RFID might have on those goals. Where there are no cause and effect relationships between passive RFID and the goals, those goals will not be used to determine the criteria of success. Based on the discussion of DoD goals, section 2.3.3 lists the refined RFID goals used for the analysis. Based on these goals, objectives for the goals are discussed in Section 2.3.4. The criteria of success are the economic benefits measured in dollars for each goal and objective.

2.3.1. DoD Passive RFID Goals

According to the DoD Passive RFID Concept of Operations (CONOPS), the objectives and goals for RFID within DoD represent operational, customer, financial, and technical improvement throughout the entire DoD supply chain. They capture the benefits of a RFID enabled DoD logistics supply chain. According to the CONOPS, DoD will measure the ability to accomplish these goals through applied metrics during the initial implementations.

2.3.1.1. Goals identified in Under Secretary of Defense (USD) for Acquisition, Technology, and Logistics (AT&L) Radio Frequency Identification (RFID) Policy Memorandum, 30 July 2004

- Leverage the passive RFID technology, where appropriate in the supply chain, to improve support to the warfighter.

- To help provide asset visibility support to the last tactical mile.

2.3.1.2. Goals identified in The Office of the Secretary of Defense, Supply Chain Integration Department of Defense Concept of Operations (CONOPS) for Radio Frequency Identification (RFID) Version 1.0 dated 8 June 2004.

- Implement Knowledge-Enabled Logistics through Fully Automated Visibility and Management of Assets in Support of the Warfighter

- Ensure Readiness for the Forces and Sustainability of the Operations

- Increase Warfighter/Customer Confidence of the Reliability of the DoD Supply Chain

- Improve Process Efficiency of Sourcing and Delivery by Improving Shipping and Receiving Sub-Processes

- Improve Product Lifecycle Management (i.e. Warranties/Configuration Management)

- Employ Mature and Emerging Supply Chain Technologies to Optimize Effective Intransit and Asset Visibility within the DoD Supply Chain

- Enable an Adaptive Supply Chain with Sense and Respond Capabilities

- Utilize RFID to Facilitate Accurate, Hands-Free Data Capture in Support of Business Processes in an Integrated DoD Supply Chain Enterprise as an Integral Part of a Comprehensive Suite of AIT Technology.

2.3.1.3. Goals identified by the Office of the Secretary of Defense, Supply Chain Integration, in a draft presentation titled 'Potential Benefits of RFID to DoD.' This presentation was given to DORRA on August 12, 2004 in a BCA coordination meeting.

- Improve Intransit and Asset Visibility

- Improve Shipping / Receiving / Transportation Timeliness

- Improve Shipping / Receiving / Transportation Accuracy

- Improve Inventory Management

- Improve Labor Productivity

- Reduce Material in the pipeline

- Eliminate Duplicate Orders

- Speed the payment process

- Automate Receipt and Acceptance of Material

- Reduce Shrink of Stock

- Reduce Not in Stock (NIS) items

- Reduce Credits and Claims

- Reduce Inventory Investment

- Reduce Labor Expenses

2.3.2. Discussion and Evaluation of DoD Passive RFID Goals

The following is a discussion of the DoD passive RFID goals listed above starting with the commercial estimates of benefits of passive RFID. The purpose is to further develop, refine, and group like goals together in order to narrow the focus of the goals. The analysis will then determine the goals which are impacted by passive RFID. The end result is a refined set of quantifiable and measurable goals that can be translated into objectives and criteria for success.

2.3.2.1. Commercial Expectations of Employing Passive RFID

The starting point for this analysis are the estimates of how passive RFID will be of benefit to the commercial sector. Passive RFID is gaining greater acceptance in the commercial sector and there are several companies, most notably Wal-mart, testing and even using RFID in different applications. However, at the time of this study there were no reports detailing the quantifiable benefits from passive RFID systems being used in actual commercial applications. There are articles stating anecdotally the benefits that companies are achieving using passive RFID. These companies have made their own estimates of the benefits of passive RFID and although their findings are closely held, estimates of passive RFID benefits for the commercial sector have been discussed in various open sources. Those companies actively pursuing passive RFID technology expect the following benefits:

Reduced Shrink. The commercial sector believes that passive RFID will reduce the amount of material that is pilfered both during transportation and from inventory which includes the back of the store and the retail shelf.

Reduced Not In Stock. The commercial sector believes that passive RFID will reduce the amount of material that is not physically on the retail shelf when a customer wants a product. For the commercial sector, if the item is not on the shelf the customer may go to a different and competing store to purchase the specific product. From a brand point of view, the customer may substitute another like product for the missing item.

Reduced Credits and Claims. The commercial sector believes that passive RFID will reduce the amount of credits and claims that result from improper shipments. These shipments from vendors include overages, shortages, and misrouted shipments.

Reduced Inventory Investment. The commercial sector believes that passive RFID will reduce inventory levels from the vendor to the retailer which will require less inventory investment in the supply chain.

Reduced Labor Expenses. The commercial sector believes that passive RFID will reduce labor expenses by making the tasks of receiving, inventorying, and processing material much more efficient.

Table 1 shows the above benefits along with the time in which the commercial sector expects to achieve those benefits along with their estimate of how much estimated savings they expect to achieve using passive RFID.

Table 1: Commercial Estimates of Benefits

Benefit	Timescale	Estimated Savings
Reduced Shrink	1-3 Years	.25-.75% of sales
Reduced Not In Stock	2-7 Years	.5 – 1.5% increase sales
Reduced Credits / Claims	2-7 Years	75% reduction in overage / shortage / misrouted shipments
Reduced Inventory Investment	2-5 Years	5-10%
Reduced Labor Expenses	2-5 Years	5-15%

2.3.2.2. DoD Goal: Improve Intransit and Asset Visibility Discussion

When examining goals the analyst must ask 'What is the goal and how should it be measured'? One group of goals articulated by DoD centers around improving the intransit and asset visibility for the warfighter down to the last tactical mile. Currently DoD has little to no intransit visibility at the last tactical mile. This goal can be turned into an objective in that DoD could improve intransit visibility by some percentage. This goal could be measured as the number of items that the warfighter has visibility of compared to his number of requisitions. However, the difficulty with this goal is that it is not easily transformed into an economic goal with a benefit measured in dollars.

This goal is sometimes stated as improving the customers confidence in the supply chain. The logical train of thought is that if a customer has better visibility of intransit shipments and other assets possibly located nearby, that customer will gain confidence in the system. To measure this goal the analyst would have to survey customers and determine what their level of confidence was in the system. This would be measured on a subjective and relative scale. The objective would be to improve the customer's confidence level by a certain percentage. Again however, the difficulty with this goal is that it is not easily transformed into an economic goal with a benefit measured in dollars.

Continuing along this train of thought, the next logical step is to say that if the customer has greater visibility of shipments and assets then he will have greater confidence in the supply chain. If the customer has greater visibility and confidence, this will in turn decrease the amount of duplicate orders from the customer. This goal also could have a tangible objective – to reduce duplicate orders from customers by 10% over the next 5 years. With more effort this can be translated into a cost avoidance benefit measured in dollars by calculating the cost of reorders in terms of their impact on stock levels, picking and packing charges, and shipping costs. Thus a good DoD goal would be to reduce duplicate orders by improving asset visibility by using passive RFID.

Another way to sate this goal is to reduce the amount of material or the amount of time material is in the pipeline. The thought is that by reducing duplicate orders, the amount of material in the pipeline will be reduced. Reducing the amount of material in the pipeline should in turn reduce the amount of time the material spends in the pipeline. Reducing the amount of time material spends in the pipeline is a good goal; however, improvements in the pipeline time and the reduction in the amount of material in the pipeline resulting from passive RFID implementation are difficult to isolate and measure.

Another positive effect of greater asset visibility resulting from passive RFID might be finding assets closer to the customer. This goal was listed by DoD as improving the process efficiency of sourcing the material. If a customer has asset visibility and can find the asset at a nearby location, this would effect the amount of material flowing through the different modes of shipping. For instance, with greater asset visibility the customer might find the asset at a closer location. This asset then could be delivered locally or by truck rather than through air or sea lanes. The drawback to this goal is that this scenario is highly dependent on stock location policies which are independent of the application of passive RFID technology. Complicating the matter is the fact that even if passive RFID can help a customer locate material nearby through improved asset visibility, that asset had to at one time pass through the supply pipeline to the forward location therefore that material still impacted the time, cost, and amount of material in the pipeline.

2.3.2.3. DoD Goal: Reduce Labor Expenses Discussion

Another grouping of DoD goals for passive RFID relates to improving labor productivity. Throughout the DoD supply chain, material is receipted and either stored in retail stock locations or the material is sorted and sent to the requisitioning customer. Using passive RFID should improve (reduce) the time it takes to receive and sort the material at each of receiving nodes in the supply chain. The thought is that passive RFID will allow hands free capturing of data currently captured using bar code technology and hence material receipt process will be faster than the current process. DoD should be able to speed up the receiving processes at each receiving point in the supply chain. The goal could be restated as increasing the number of receipts per hour at each receiving point. This goal could then be measured in terms of receipts per hour.

To get this goal into an economic measure the goal must be linked to the labor costs associated with receiving material. The Defense Distribution Command (DDC) Business Case Analysis for Radio Frequency Identification Integration dated 22 March 2004 estimates that passive RFID will reduce receiving time by .2 minutes for each receipt. By reducing the receipt time, DoD should be able to reduce labor and labor costs across the supply chain. Thus a goal for implementing passive RFID is to reduce labor expenses. This goal can be measured in dollars.

2.3.2.4. Improve Inventory Management Discussion

A longer term goal of introducing passive RFID is to reduce inventory investment. By employing passive RFID it is thought that there will be better inventory visibility and hence better inventory management. Better inventory management should reduce inventory investment and also reduce Not in Stock (NIS). The goal can be stated as reducing DoD inventory levels by a percent of the current inventory. This can be measured in dollars. Another goal can be stated as reducing the number of items that are Not in Stock. The difficulty of using a Not in Stock goal is in measuring it in terms of dollars or as an economic impact. Reducing Not In Stock items will in a DoD context improve readiness of weapons systems but this can not be quantified in terms of dollars. The commercial estimate is that passive RFID will reduce inventory by 5% to 10%. However for DoD a reduction in inventory is considered a one time savings and is not usually included as economic savings in a BCA. Another argument for not including inventory investment savings is that any amount saved would be used to invest in other stock. This additional stock bought with dollars saved from other inventory savings could improve customer satisfaction and possible readiness, but again it does not translate to a quantifiable economic savings to DoD.

One goal that passive RFID should have a significant impact on is in the reduction in the Shrink of Stock. Passive RFID should help reduce the amount of losses experienced in the DoD supply chain. These losses include improper manifesting, overages, shortages, and misdirected freight. This translates to a quantifiable objective to reduce Shrink of Stock by a percent that is measured in dollars as a percent of sales.

2.3.2.5. Improve Shipping / Receiving / Transportation Accuracy Discussion

Another goal of passive RFID is to reduce Credits and Claims that would result from greater shipping / receiving / and transportation accuracy. The objective would be to reduce credits and claims by some percent measured again in dollars. For the DoD supply chain however, credits and claims do not result in DoD savings. Rather, credits and claims shift dollars among DoD accounts from wholesale accounts to retail accounts. Overall there are no savings for the DoD supply chain.

2.3.2.6. Cause and Effect Analysis

In order for passive RFID to be accepted, decision makers must see that the cause, implementation of passive RFID, actually will have an effect which are benefits for the DoD supply chain. For this business case, the analysis and hence the recommendations rest on demonstrating that there are strong links between the cause and the effects for passive RFID.

2.3.2.6.1. Relationship: RFID and Not in Stock

For the commercial sector, the idea is for RFID to give the vendor or retailer more timely information regarding the stock level of an item on the shelf so that when the customer comes to the shelf to select the product the item will be available. This is estimated to increase sales of a product by .5 to 1.5% of current sales in the commercial sector.

This scenario is not analogous to the DoD supply chain in which if an item is not available the requisition is placed on back order. The sale of the item to the requisitioning customer will occur when the item is received either from the vendor (direct delivery) or through the distribution system (stock). Furthermore, the DoD customer will not cancel the requisition for the backordered item in order to purchase the item elsewhere because of the unique nature of the military related items.

Secondly, studies have shown that items Not on Stock in the DoD supply chain are a result of three primary causes. One cause is that the demand or demand rate for the item is greater than expected. Passive RFID will have no impact on the customer demand for the item with the possible exception of duplicate buys which is addressed in section 2.2.2.6.6. Another cause of items not being in stock is that the vendor has not delivered the item within the contracted time or within the production lead time. Again this cause of not in stock can not be affected by implementing passive RFID. The chief cause of backorders is the purchase process by Inventory Control Points (ICPs). Items will not be in stock when the ICP is unable to award a contract within the Administrative Lead Time (ALT) listed for the item. Again, this process can not be affected by passive RFID. The information needed to start the buying process is already contained within existing IT systems. At this point in the process it is not relevant on how the data was uploaded whether by current processes or by RFID.

In the DoD business model an item not in stock has an impact on readiness. If a warfighter can not get a part to repair a weapon system then readiness is reduced. Any improvements in the supply chain that reduce items not in stock will have a positive impact on readiness. However, the difficulty is trying to figure the quantifiable economic impact of a backorder in the DoD supply chain.

The net economic effect of RFID on an item not is stock in the DoD supply is zero. In other words, passive RFID will not increase the sale of items in the DoD supply chain by reducing items Not in Stock.

2.3.2.6.2. Relationship: RFID and Reducing Shrink

The commercial sector envisions using passive RFID as a security device that will help determine and stop the source of pilfering and shrink of assets throughout the supply chain. The estimated benefit is .25% to .75% of annual sales.

This benefit applies to the DoD supply chain. Passive RFID will enable the tracking of supplies through the DoD supply chain from the depot to the warfighter. By keeping better track of items as they move through the distribution nodes of the supply chain fewer items will be lost, misrouted, astray, or stolen. Additionally, passive RFID will complement active RFID tags currently used on shipping containers and air pallets. When the pallet or container is broken down in the port of debarkation the active tag loses its value, however the passive tag attached to each shipment can be used over the last tactical mile to the warfighter.

In accordance with DoD RFID policy, passive RFID tags on inbound shipments to DoD from vendors are placed at the carton and pallet level rather than the unit of issue level. Upon receipt, the material is placed into inventory and as a result each unit of issue will not have a passive RFID tag. Therefore, passive RFID will have little effect on shrinkage or pilferage at the storage or depot level. However, one area that causes economic losses within the supply chain is when an item is improperly receipted into the inventory. This occurs when the operator enters a quantity into the inventory information system that does not match the actual quantity of the material received. The difference in quantities will later result in an inventory loss because of the receipt error. RFID can help eliminate this type of loss by ensuring greater data accuracy in the AIT system.

2.3.2.6.3. Relationship: RFID and Reduced Credits / Claims

The commercial sector believes that passive RFID will reduce credits and claims. However, this benefit of passive RFID does not apply in the DoD business model. The purpose of RFID is to help ensure an item sent to the customer arrives at the proper destination. In order for an item to be returned the shipment must first arrive to the customer. At this point RFID has accomplished its purpose. If a customer needs to return the item then there are a few possibilities to consider, each of which RFID has no impact. Either the customer ordered the wrong part or the wrong quantity, the customer no longer needs the part because he obtained one elsewhere, or the wrong part or quantity was picked and shipped by the supply system. Again, each of these causes for a customer needing to return a part is not influenced by RFID.

Additionally, returns within the DoD supply chain do not produce savings to DoD. Rather, money exchanged for returns or credits stays within the DoD working capital revolving funds. For instance, if a part is returned from a service to DLA, the money is transferred from DLA back to the service. The money stays within

DoD working capital funds and the net savings to DoD is zero.

2.3.2.6.4. Relationship: RFID and Reduced Inventory Investment

The commercial sector thinks that passive RFID will be able to reduce the amount of material stocked at each level within the supply chain from the manufacturer, the distributor, and the retailer by improving inventory level and demand information within the supply chain. Simulation results presented at the Winter Simulation Conference in 2004 by IBM show that there are significant benefits to the supply chain by the reduction of inventory levels at each of these supply nodes.[1]

This benefit also applies to the DoD business model. An RFID enabled supply chain that increases the sharing of information including inventory levels and demand will allow inventory levels to be reduced. The difficulty is determining a quantifiable economic impact. In addition, reduction in inventory levels is a one time savings to DoD. Money saved in the working capital funds will most likely be invested in other material. This will improve DoD logistics but not necessarily result in any savings. Furthermore, there are other initiatives within the supply chain that should reduce inventory levels. It will be difficult to determine the amount of savings in inventory investment resulting from RFID vice the other initiatives.

2.3.2.6.5. Relationship: RFID and Reduced Labor Expenses

A good cause and effect relationship occurs between RFID and reducing labor expenses. For each receipt the DDC estimates passive RFID will reduce induction into the system by 0.2 minutes per receipt.[2] This process is repeated two to three times as the shipment of material progresses through the supply chain to the end customer. Thus the goal is to reduce labor expenses. The objective will be to reduce receiving process by .2 minutes per receipt. The objective will be measured in dollars by multiplying the labor savings by the standard labor rate of $40,000.

2.3.2.6.6. Relationship: RFID and Reducing Duplicate Orders

One consideration in the DoD business model that is not present in the commercial sector is the issue of duplicate orders. The DoD supply chain is unique in that customers may be deployed to areas of the world that make logistics support difficult. Often DoD customers are moving such as Navy ships. And often shipment times may take a week or two by air and over 30 days by sea lift. This presents a unique challenge both for material flow and information sharing. When a customer is separated from the main sources of supply the customer's confidence and trust in the supply chain diminishes. When the DoD customer losses trust in the supply chain, the customer may submit duplicate orders for the same part thinking the first requisition is lost. This in turn results in duplicate ordering costs, duplicate issuing costs, and duplicate transportation costs. With RFID, greater information regarding the location of parts on order will increase the confidence in the DoD supply chain and hence reduce duplicate orders and their associated costs.

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[1] Lee, Young M., et. Al. 2004. "Exploring the Impact of RFID on Supply Chain Dynamics". *Proceedings of the 2004 Winter Simulation Conference.*

[2] DLA Business Case Analysis For Radio Frequency Identification Integration, 22 March 2004.

2.3.3. Recommended RFID Goals used for the Analysis

Having examined the DoD goals for passive RFID, grouping those goals into similar categories, and examining the cause and effect relationships of passive RFID to those goals, the following are the goals which this analysis will use to build the business case for passive RFID integration into the DoD supply chain. These goals will then be translated into quantifiable and measurable objectives which form the criteria upon which this analysis will examine passive RFID.

2.3.3.1. Reduce Losses of Material in Transportation

This includes pilferage, misrouted, astray, and lost material.

2.3.3.2. Reduce Losses of Material In Inventory

This goal is to reduce the amount of material written off as lost in the inventory system due to improper induction of material into inventory.

2.3.3.3. Reduce Duplicate Issuing Costs.

RFID will increase trust in the DoD supply chain thus reducing duplicate orders and associated issuing costs.

2.3.3.4. Reduce Duplicate Transportation Costs.

RFID will increase trust in the DoD supply chain thus reducing duplicate orders and associated transportation costs.

2.3.3.5. Reduce Labor Expenses

RFID will improve efficiencies in receiving material at all levels of the DoD supply chain. RFID will also improve manifesting procedures requiring less inventory searches and less time to build pallets, stuff containers, and build manifests.

2.3.4. Recommended RFID Objectives used for the Analysis

The following are the objectives for each of the goals / benefits listed above.

2.3.4.1.Reduce Losses in Transportation

The objective for DoD should be to reduce losses in transportation by .25% to 1% of sales.

According to a 1992 GAO report to the Chairman, Subcommittee on Oversight of Government Management, Committee on Governmental Affairs, U.S. Senate titled *Defense Transportation: Ineffective Oversight Contributes to Freight Losses*, DoD does not know the amount of losses experienced in the DoD supply chain. Therefore the objective of reducing losses in the supply chain can not be measured against actual losses.

As opposed to measuring the objective against actual losses, the commercial estimate of reducing losses from shrink is measured against gross sales. Sales for DoD are represented as the receipts from sales of repair parts (energy sales are excluded). The sales figures for DLA and each service is contained in the Program Objective Memorandum / Budget Estimate Submissions (POM / BES) submitted by each service to DoD. These figures were verified with each service Working Capital Fund statements Fund codes 11 and 14 using only the supply portion of those statements.

The range of savings of .25% to 1% is estimated based on several sources which put boundaries on this parameter. First, the commercial estimate of benefits for reducing shrink is .25% to .75%. Second, the BCA conducted by Bearing Point, Inc. for the U. S. Air Force Serial Number Tracking initiative estimates a savings of 1% to 5% of the Air Force spares budget which is essentially Air Force sales. Third, in an interview with a retail manager of large home furnishings store, their goal is to have all losses including pilferage, breakage, and transportation losses less than 1.2% of their sales. Fourth, in an interview with a large trucking firm that grosses over $1 Billion in yearly gross revenue, their goal is to have losses less than 2.5% of gross revenue. Their actual performance is closer to 1%. Fifth, the Naval Ocean Freight Terminal in Norfolk, VA improved their manifest accuracy from 94% to 100% in their RFID pilot. If material is handled three times in the supply chain this results in an improvement from 88% up to 100%. Not all the material improperly manifested is lost therefore it is estimated that RFID will impact 10% of the 12% that is normally improperly manifested which again puts the benefit of RFID to reduce losses around 1% of sales. Lastly and most convincing is a study by Price Waterhouse Coopers published in 1999 which documented the actual benefits of introducing bar-coding technology to the grocery industry[3]. The study concludes that bar-coding reduced shrink in the grocery supply chain by 0.6%. This figure falls right in the range of the estimate of benefits for reducing Shrink in the DoD supply chain. Combined, these sources provide excellent confidence that DoD should be able to reduce transportation losses from .25% to 1% of sales.

2.3.4.2.Reduce Losses in Inventory

The DoD objective should be to reduce losses in inventory by 5% to 10% of actual losses by using passive RFID.

The actual losses were calculated by summing up the estimated losses from each service FY05 working capital fund statements. These loss estimates where held constant over the period of the study.

The range for this benefit of 5% to 10% is taken directly from the commercial estimate of how much they would be able to reduce inventory.

2.3.4.3.Reduce Duplicate Issuing Costs

The objective is to reduce duplicate order issuing costs by 1% - 2%.

Issuing costs were calculated by summing up the actual FY4004 Net Landed Cost bills to each service and DLA issued form the Defense Distribution Command.

A quick analysis was done by DORRA using requisition history files to determine how many requisitions looked like they may be a duplicate order by comparing DoDAACs, National Stock Numbers (NSNs), quantities, and priorities over a three month period. If two or more requisitions had the same DoDAAC, NSN, Priority, and quantity but were ordered on different dates according to the requisition document number, these were considered duplicate orders. An upper bound for the percent of orders that are duplicate orders is 10%. To be conservative in the estimates for the analysis this figure was reduced to 1% to 2%.

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[3] Garg, Vineet, Jones, Charles, and Sheedy, Christopher. *17 Billion Reasons to Say Thanks. The25th Anniversary of the U.P.C. and It's Impact on the Grocery Industry;* Price Waterhouse Coopers, Mar 1999.

2.3.4.4.Reduce Duplicate Transportation Costs

The objective is to reduce duplicate transportation costs by 1% - 2%.

Transportation costs were calculated by summing up the actual FY2004 transportation bills including over ocean charges for each service and DLA. These costs were held constant for the period of the study.

A quick analysis was done by DORRA using requisition history files to determine how many requisitions looked like they may be a duplicate order by comparing DoDAACs, National Stock Numbers (NSNs), quantities, and priorities over a three month period. If two or more requisitions had the same DoDAAC, NSN, Priority, and quantity but were ordered on different dates according to the requisition document number, these were considered duplicate orders. An upper bound for the percent of orders that are duplicate orders is 10%. To be conservative in the estimates for the analysis this figure was reduced to 1% to 2%.

2.3.4.5.Reduce Labor Expenses

The objective is to reduce labor expenses.

The commercial estimate is that RFID will reduce labor expenses from 5% - 15% of actual labor costs. Determining actual labor costs associated with the supply function can be calculated using the labor charges in Funds 11 and 14 from the working capital fund statements. However, the labor costs of the working capital fund statements include many positions that will not be impacted by RFID.

Rather than using the entire labor costs from the working capital fund statements this analysis calculated that there may be up to 5 FTE positions reduced by RFID at the major depot locations, 3 FTEs at intermediate depot locations and the larger service locations, and 1 FTE at the smaller service locations at which RFID will be employed according to the service implantation plans as detailed in the USD Cost Model. Detail for these savings are not provided because of the sensitivity to the identification of locations and FTEs for fear that positions may be lost prior to the actual implementation of RFID.

2.3.5. Recommended Criteria used in the Analysis to Evaluate Alternative Solutions

The criteria used to evaluate alternative solutions is the quantifiable economic ROI. A positive ROI for implementing passive RFID will result in a recommendation for continuing with passive RFID initiative. A negative ROI will result in a recommendation for the status quo based on economic reasons alone.

2.4. Passive RFID Initiative Stakeholders

2.4.1. The Services

The Services are a major stakeholder in RFID. The services will incur a substantial cost for RFID equipment. Likewise, the services also have the opportunity for improved and less costly logistics based on greater asset visibility.

2.4.2. US Transportation Command (USTRANSCOM)

As DoD's Distribution Process Owner (DPO), USTRANSCOM supports integrated RFID policy that includes technical and business rules, management, architecture, funding, and standards. Although USTRANSCOM's primary focus will be active RFID, they fully support and will act to adopt and field supporting policies, investments, practices, and passive RFID technologies as rapidly as reasonably prudent.

2.4.3. DLA

The twofold mission of DLA is to continue maximum effort to immediately implement and expand the use of high data capacity active RFID currently employed in the DoD operational environment and to establish the initial capability at the two strategic distribution platforms (Defense Distribution Susquehanna Pennsylvania (DDSP) and Defense Distribution San Joaquin California (DDJC)) to read passive RFID tags and to apply RFID tags on shipments to DoD activities and units by January 1, 2005. Furthermore, DLA will continue to plan and fully implement RFID into the distribution centers in accordance with DoD policy and end state vision.

2.4.4. Suppliers

Suppliers are also stakeholders in the implementation of passive RFID. Suppliers will incur substantial costs to implement passive RFID technologies and information systems to accomplish the requirements detailed in the DoD RFID policy.

3.0 Assumptions

3.1. Demand

It is assumed that item demand and receipts of material into the DoD supply chain will remain relatively constant over the analysis time period.

3.1.1. Discussion

The cost of RFID tags is a significant ongoing cost of implementing an RFID system. Costs will move in the same direction as the number of receipts and shipments. The greater the number of shipments, the greater the cost for tagging. Likewise, if shipments decrease, costs will decrease.

3.1.2. Effects if the assumption is not correct

The greatest effect of a change in the number of shipments will be the overall cost of operating an RFID system based on the number of RFID tags used in shipping material through the supply chain.

3.2. Equipment

It is assumed that the equipment considered in this study is available in a production model at the time of installation.

3.2.1. Discussion

A great deal of progress has been made over the last year in the production of RFID equipment. With time, the equipment will get better in terms of performance, reliability, and ease of use, but implementation of current hardware into a working production environment is a still a challenge.[4] All aspects of RFID components change monthly or more frequently.

The passive handheld tag reader currently is still under going great change and availability can be an issue. Firmware bugs in handheld tag readers occasionally lead to unpredictable operation. Handheld readers do not have wireless connectivity and memory size limitations within the readers can cause a loss of tag data for large unit issues.

3.2.2. Effects if the assumption is not correct

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[4] *Global Asset Visibility (GAV) Technology Demonstration Test Results*, Oak Ridge National Labs, March 17, 2004

Equipment availability has a major effect on the implementation of RFID within DoD. Ideal solutions and recommendations might change drastically if equipment such as forklift tag readers or reliable and wireless handheld readers become available. This is especially true for receiving material at the field or ship level. There is less effect on the implementation of RFID at the depot level since equipment such as RFID printers and fixed readers are more mature than forklift and handheld readers.

3.3. Cost of RFID Tags

It is assumed that the cost of RFID printable tags will remain in the $0.35 to $0.50 range. This analysis will use $0.40 as the cost of a RFID printable tag.

3.3.1. Discussion

The current cost of RFID tags used in RFID printers is currently in the $0.35 to $0.50 range. There is industry debate about the cost of tags in the future. Some will argue that as the market for RFID tags increases, production and increased supply will cause the price to decrease. Others however are arguing that the cost will remain relatively constant since as production increases, demand will also increase resulting in a stable price level. In addition, the introduction of technological advances, such as the introduction of the Generation 2 (Gen 2) tag, will tend to keep the cost of tags higher since new technology also has a period of low supply.

3.3.2. Effects if the assumption is not correct

The cost of tags will be a substantial ongoing operational cost in the RFID system. Given that the demand for tags remains constant, if the price of tags goes down, the overall operational costs will decrease. If the price of tags remains the same, operational costs will remain the same. As a result of the analysis, the conclusions of this study are not sensitive to the cost of tags. Therefore, with a decrease in the price of tags over time, DoD will achieve greater economic benefits from employing passive RFID.

3.4. Data Accuracy

It is assumed that data accuracy will be improved as a result of implementing passive RFID.

3.4.1. Discussion

Item data is maintained as part of the National Inventory Record and will not be affected by RFID. Inventory data is affected upon receipt of material into the stock system. Upon receipt, material is checked against due in records and the inventory is increased. Inventories can be corrupted if the inputted data amount is less or more than the actual material receipt. This is a data entry error. RFID will change how the data is input into DoD inventory systems and it should improve the accuracy of that information.

Possibly offsetting the improved accuracy, the RFID tag must be matched against yet another data base containing information regarding the contents of the shipment related to the tag ID. The introduction of another database of information increases the chances of inaccurate data. It also increases the chances that the transmission of the data becomes corrupted resulting in less accurate inventory data.

Other sources of data inaccuracy can occur when one reads the RFID tag. Because of the physics of antennas and radio frequencies, a person is not always sure of what information he is reading. This is true more so for a handheld reader. The reader antenna may actually pick up the data off of a tag to the left, right, or even from behind the reader.

There is also the possibility of tags being damaged during transit and unreadable. It seems unlikely that the tag could become associated with another item accidentally.

3.4.2. Effects if the assumption is not correct

If this assumption is not correct and the data information is worse than current processes, then inventory level data may become corrupted resulting in inventory investment increasing. If data is worse, extra care and processes may be necessary to induct material into the supply system at each node of the supply chain negating any labor savings from using RFID.

If as assumed data accuracy improves using RFID, then the hoped for benefits of reducing inventory investment, reduced shrinkage, and reduced duplicate orders will result.

4.0 Constraints

These constraints were identified in the DoD Passive RFID CONOPS

4.1. Organizational Constraints

Each DoD component has unique AIS's that will require custom integration.

Each DoD component has different business processes and unique requirements.

Each DoD component has differing budgetary constraints.

4.2. Process Constraints

There are many different implementations of the same process throughout DoD; this increases the difficulty of integrating RFID infrastructure.

Many logistics processes within the DoD vary greatly or are not documented so standards are difficult to establish.

The focus of initial implementations will be more technology oriented, not process oriented. Follow-up may be required to address process enhancements to maximize benefits of RFID

4.3. Technology Constraints

Current RFID technology is rapidly evolving and keeping deployed hardware and software updated is time-consuming.

Current passive Ultra High Frequency (UHF) RFID technology has limited read-range.

Current passive UHF RFID tags are still somewhat expensive. Currently, two published specifications for communication protocols exist.

Lack of worldwide acceptance of frequency standards for UHF RFID.

5.0 Alternatives

This business case analysis considers the following alternatives:

Alternative 1. Remain with the status quo.

Alternative 2. Continue with passive RFID implementation as planned.

5.1. Alternative 1: Remain with the Status Quo

Continue to provide logistics support using current barcode and active RFID technology.

5.1.1. PROs

Remaining with the current processes would not require spending the millions of dollars needed to implement passive RFID. These funds could then be used for other programs deemed more important by the services.

5.1.2. CONs

Visibility of intransit assets to the last tactical mile would continue to be a problem. Remaining with the current processes would lose the generally accepted benefits of RFID.

5.2. Alternative 2: Continue Passive RFID Implementation

Proceed with passive RFID implementation as prescribed in the DoD RFID policy and CONOPS.

5.2.1. PROs

Implementing passive RFID now enables the DoD to gain experience with this technology and to possibly gain financial benefits over the long term by enhancing the DoD supply chain.

5.2.2. CONs

Spending millions of dollars on RFID technology with very few demonstrated returns.

6.0 Evaluation of Alternatives

6.1. Costs

Each Service, DLA , and USTRANSCOM estimated the costs for implementing RFID and provided the estimates as input into the AUSD Cost Model. The costs out to FY2011 are shown in Table 2. The estimated costs include RFID hardware, software, training, maintenance, upgrades to equipment, tags, installation costs, and program management costs. Costs are based on the concept of operations at the time the costs were developed and based on the locations identified by the services where RFID will be employed. The USD Cost model was adjusted by DORRA for the assumption that tag costs will remain at the 40 cent level. The analysis considers costs and benefits from FY2004 to FY2011 to correspond with the current POM / BES timeframe.

Table 2: RFID Program Costs to FY2011

(Millions)	FY2005	FY2006	FY2007	FY2008	FY2009	FY2010	FY2011	Total
DLA	20.1	21.6	19.9	17.8	18.2	18.2	17.7	133.5
USTC	0.0	4.4	13.6	8.0	8.2	8.4	8.8	51.4
USA	0.0	5.0	0.1	3.6	29.2	91.6	100.1	229.7
USN	0.0	7.5	7.6	15.1	15.2	9.9	10.4	65.7
USMC	0.0	0.0	0.0	9.3	11.3	8.3	4.4	33.3
USAF	0.0	3.7	0.1	17.8	33.9	33.5	53.9	142.8
Total	20.1	42.2	41.2	71.6	116.1	169.8	195.4	656.4

6.2. DoD Estimates of Benefits

Based on the discussion of Section 2, the benefits of passive RFID are listed in Table 3.

Table 3: DoD Estimated Benefits

Benefit	Estimated Benefit
Reduced Shipping Losses	0.25% - 1% of sales
Reduced Inventory Losses	Reduce losses 5 %– 10%
Reduced Duplicate Order Issuing Costs	1% - 2% of Issuing Net Landed Costs
Reduced Duplicate Order Transportation Costs	1% - 2% of Transportation Costs
Reduced Labor Expenses	$40K per FTE

6.3. DoD Raw Data

This section details the source for the DoD raw data that is used to multiply against the estimated benefits associated with each goal.

6.3.1. DoD Sales Data

The estimated DoD sales were taken from each service and agency POM

/BES submissions. These submissions estimate the gross sales of supplies from FY2005 to FY2011. The gross sales are for repair type items and do not include fuel and energy costs or munitions and were limited to the supply function. The DoD sales are simply the summation of each service and agency gross sales estimates.

6.3.2. Inventory Losses

Inventory losses were calculated by summing up inventory losses across the DoD. These losses are reported in the Fund 11 and Fund 14 statements of each agency Working Capital Fund Statements for FY2005. Where applicable, the Fund Statements were limited to the supply function. For lost inventory, the FY2004 value was used as the estimate for each year out to FY2011.

6.3.3. Issuing Costs

The estimate for issuing costs are the actual Net Landed Cost bill that the Defense Distribution Command (DDC) charged each service and DLA Inventory Control Point (ICP) for issuing requisitions in FY2004. This value was also used as the estimate out to FY2011.

6.3.4. Transportation Costs

The estimate for transportation costs are the actual costs for FY2004 according to USTRANSCOM bills for transportation to the DDC, including over ocean. The FY2004 transportation cost estimate is used as the estimate out to FY2011.

6.3.5. Labor Expenses

Labor Expenses are calculated at the WG5 to WG6 fully loaded rate of $40,000 per Full Time Equivalent (FTE). The number of positions saved is based on location in the implementation plan with 5 FTEs saved at major locations, 3 at intermediate locations, and one FTE at each minor or terminating location. Savings for reducing labor expenses are cumulative in that positions saved in the first year are also saved in subsequent years.

Table 4 shows the DoD raw data for each of the categories above.

Table 4: DoD Raw Data

($ Millions)	FY 05	FY 06	FY 07	FY 08	FY 09	FY 10	FY11
DoD Sales	45,506	45,102	43,689	43,526	44,361	45,318	46,307
DoD Inventory Losses	270	270	270	270	270	270	270
Issuing Costs	425	425	425	425	425	425	425
Transportation Costs	1,800	1,800	1,800	1,800	1,800	1,800	1,800
Labor Savings	-	1.12	3.76	6.08	7.80	10.2	15.1

6.4. Optimistic View of DoD RFID Benefits

The optimistic view takes the greatest estimate of benefits multiplied against the DoD raw data to show the expected results. In the optimistic view the estimate of a 1% savings by reducing losses in transportation is increased from .25% up to 1% over four years. Likewise the inventory losses are increased over time up to the 10%. The increase over time of these two values acknowledges that DoD is phasing in RFID across the supply chain although the analysis keeps the benefits within the POM / BES time frame. Table 5 shows the percents multiplied against the DoD raw data in Table 4. Table 6 shows the resulting passive RFID benefits to DoD. In the optimistic view the net savings over the POM / BES timeframe is $1,781 million.

Table 5: Optimistic Estimated Benefit Schedule

	FY 05	FY 06	FY 07	FY 08	FY 09	FY 10	FY 11
Reduced Shipping Losses	-	0.25%	0.50%	0.75%	1%	1%	1%
Reduced Inventory Losses	-	2%	4%	6%	8%	10%	10%
Reduced Duplicate Order Issuing Costs	-	2%	2%	2%	2%	2%	2%
Reduced Duplicate Order Transportation Costs	-	2%	2%	2%	2%	2%	2%
Reduced Labor Costs ($ Millions)	-	1.12	3.76	6.08	7.80	10.2	15.1

Table 6: Optimistic Savings to DoD

($ Millions)	FY 05	FY 06	FY 07	FY 08	FY 09	FY 10	FY 11
Reduced Shipping Losses	-	112.8	218.4	326.4	443.6	453.2	463.1
Reduced Inventory Losses	-	5.40	10.8	16.2	21.6	27.0	27.0
Reduced Duplicate Order Issuing Costs	-	8.5	8.5	8.5	8.5	8.5	8.5
Reduced Duplicate Order Transportation Costs	-	36.0	36.0	36.0	36.0	36.0	36.0
Reduced Labor Costs	-	1.12	3.76	6.08	7.80	10.2	15.1

6.5. Pessimistic View of DoD RFID Benefits

The pessimistic view takes the smallest estimate of benefits multiplied against the DoD raw data to show the expected results. In the pessimistic view the estimate of a .25% savings by reducing losses in transportation is increased from .25% up to .30% for the last two years however, results for the first couple of years is zero. This shows the least amount of improvement that DoD needs in order to have a positive ROI. Likewise the inventory losses are increased over time up to the 5%. The increase over time of these two values acknowledges that DoD is phasing in RFID across the supply chain although the analysis keeps the benefits within the POM / BES time frame. Table 7 shows the percents multiplied against the DoD raw data in Table 4. Table 8 shows the resulting passive RFID benefits to DoD. In the pessimistic view the net savings over the POM / BES timeframe is $69.9 million.

Table 7: Pessimistic Estimated Benefit Schedule

	FY 05	FY 06	FY 07	FY 08	FY 09	FY 10	FY 11
Reduced Shipping Losses	-	-	-	0.25%	0.25%	0.30%	0.30%
Reduced Inventory Losses	-	1%	2%	3%	4%	5%	5%
Reduced Duplicate Order Issuing Costs	-	1%	1%	1%	1%	1%	1%
Reduced Duplicate Order Transportation Costs	-	1%	1%	1%	1%	1%	1%
Reduced Labor Costs ($ Millions)	-	1.12	3.76	6.08	7.80	10.2	15.1

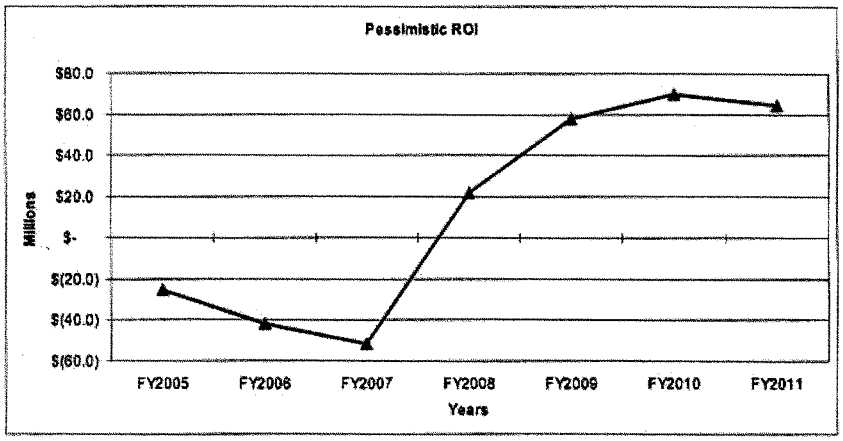
Table 8: Pessimistic Savings to DoD

($ Millions)	FY 05	FY 06	FY 07	FY 08	FY 09	FY 10	FY 11
Reduced Shipping Losses	-	-	-	108.82	110.90	135.96	138.92
Reduced Inventory Losses	-	2.70	5.40	8.11	10.8	13.5	13.5
Reduced Duplicate Order Issuing Costs	-	4.25	4.25	4.25	4.25	4.25	4.25
Reduced Duplicate Order Transportation Costs	-	18.0	18.0	18.0	18.0	18.0	18.0
Reduced Labor Costs	-	1.12	3.76	6.08	7.80	10.2	15.1

6.6. Economic Analysis

The ROI for the optimistic view is $1,781 Million over the period to FY2011. The benefits provide an immediate return over the costs with a break even point in FY2006. The ROI for the pessimistic view is $69.9 million over the time period with a break even point 3 years from inception in FY2008.

Table 9: Pessimistic Return On Investment Chart



6.6.2. Conclusion

Passive RFID will have a positive economic impact on the DoD supply chain with a break even point two to three years after full implementation.

6.6.3. Sensitivity

This analysis is not sensitive. The only possibility that would change the conclusion that RFID will have a positive economic impact is if it can be shown that there are no losses in the DoD supply chain. If RFID can only achieve a 0.1% savings by reducing losses in shipment then based on the amount of sales in DoD, it would still have a positive economic impact in the long run.

6.6.4. Other Benefits Not Quantified

There are other benefits to RFID that this analysis did not quantify. Based on the RFID literature, passive RFID should also reduce DoD inventory investment. Based on the commercial estimate Of 5% to 10% savings this would result in a one times inventory saving to DoD of about $3.5 to $7 Billion Dollars.

Also not quantified in this analysis is the impact on readiness RFID might have for the warfighter. Logically, any improvement in the supply chain will result in better support to the warfighter thus reducing items not in stock and in turn improving readiness.

Another benefit not addressed is the process and policy changes that RFID will bring about which have the potential to significantly improve support within the DoD supply chain.

7.0 Comparison of Alternatives

To reiterate, the alternatives considered in this analysis are either to stay with the current system using bar codes or to continue the implementation of passive RFID in the DoD supply chain. Furthermore, the basis on which alternative to chose was determined to be the economic ROI of implementing passive RFID. Since the conclusion was that passive RFID will have a positive economic impact on the DoD supply chain with a break even point two to three years after full implementation, this study recommends that DoD proceed with passive RFID implementation as prescribed in the DoD RFID policy and CONOPS.

As a result DoD should expect savings from RFID implementation from a reduction in lost material in transit, from a reduction in inventory induction mistakes, from reduced duplicate orders resulting in less issuing costs and transportation costs, and eventually from a reduction in labor expenses.

As a lower bound DoD can expect savings in the $70 million range and as an upper bound DoD might expect savings near $1,781 million over a six year period once RFID is implemented in the DoD supply chain. These savings will begin after the break even point which should occur in three to four years.

8.0 Submitting Organization Approval Chain

8.1. Submitting Organization

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8.2. Command Level Approval from Submitting Organization

Comments:

Concur / Non-concur:

Organization:

Signature

8.3. HQ DLA Executive Director Approval

Comments:

Concur / Non-concur:

Organization:

Signature